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ABSTRACT

This assessment describes the present renewable resources situation and projects future supplies of, and demands for, these resources. It also identifies various means to meet the demands. For selected resources, it also analyzes benefits and costs of meeting the demand. This assessment also shows that demand for forest and rangeland resources will continue to grow, but supply will increase at a slower rate. A program to implement the Renewable Resources Planning Act, based upon the findings of the assessment, is presented. (Author/RE)

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United States Department of Agriculture

Forest Service

FS-347

The 1980 Report to Congress on the Nation's Renewable Resources

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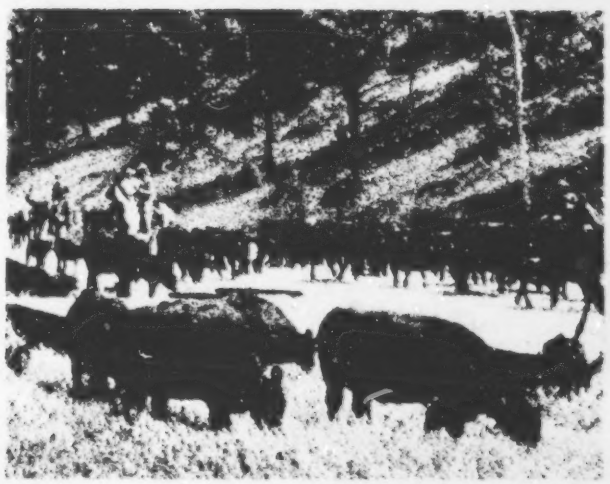

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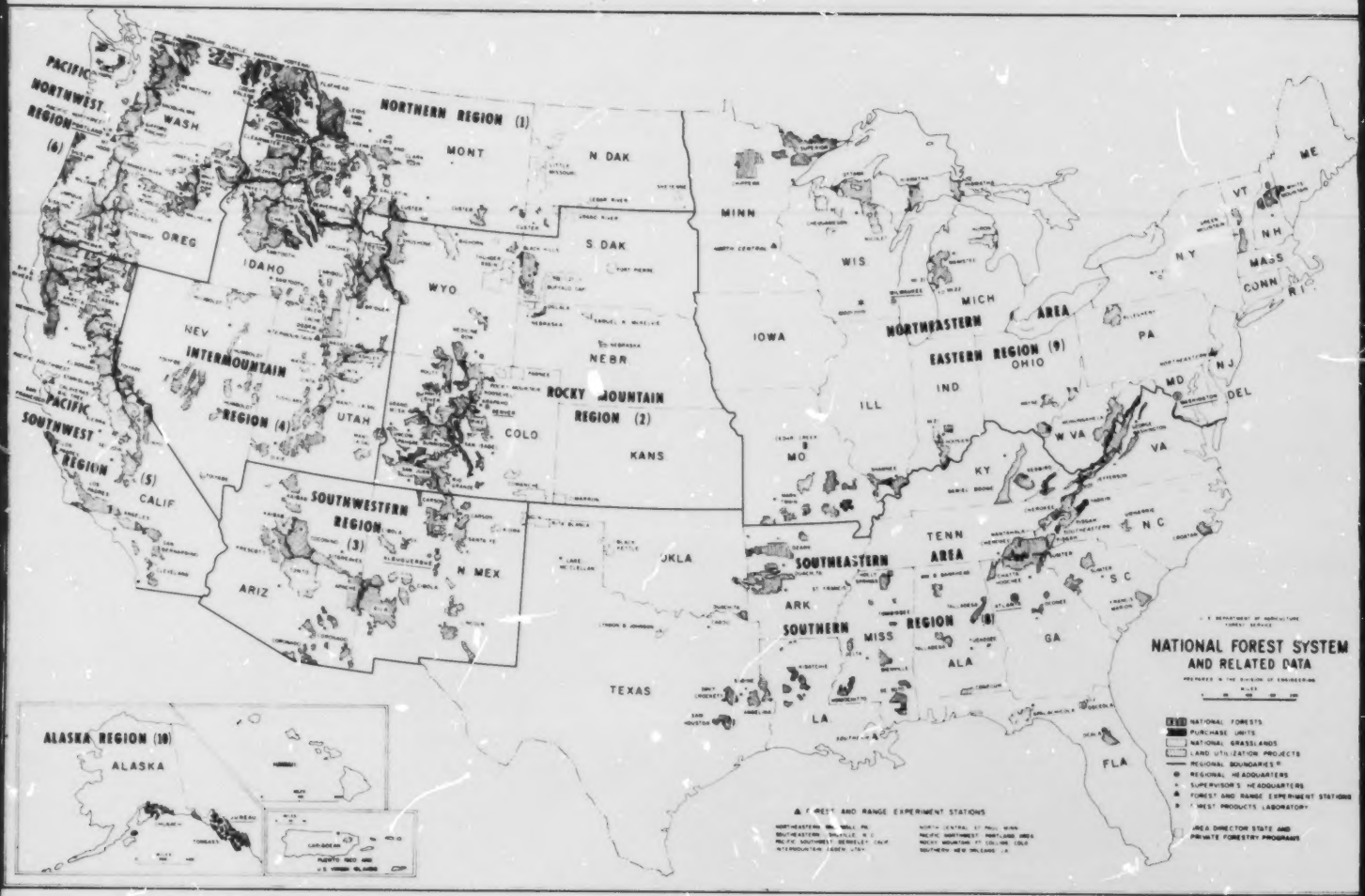
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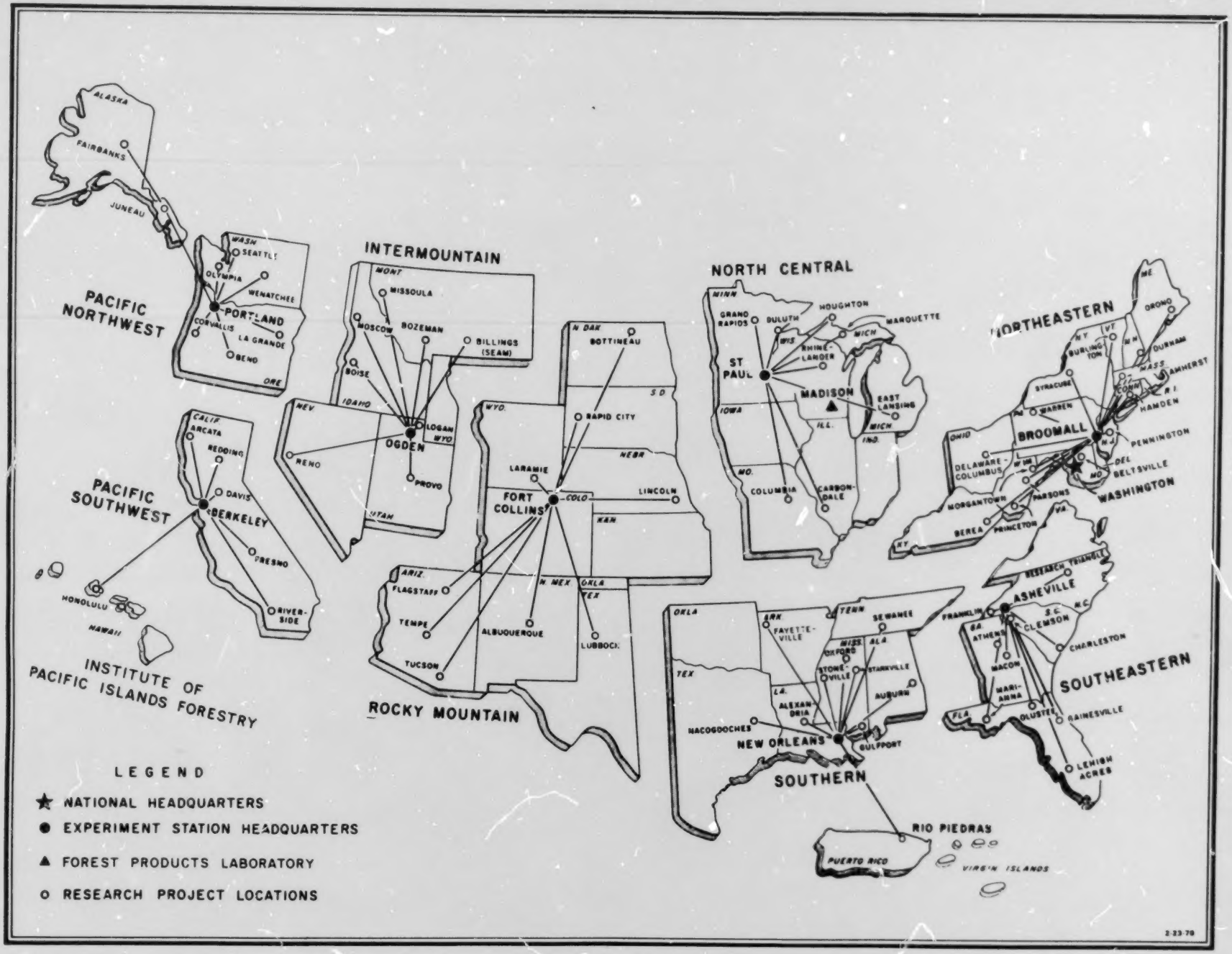
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FOREST PRODUCTS LABORATORY
RESEARCH PROJECT LOCATIONS
2-23-79

Final Environmental Impact Statement

USDA Forest Service Program Nationwide

Lead Agency: Forest Service, USDA

Responsible Official: Bob Bergland, Secretary of Agriculture
U.S. Department of Agriculture

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Abstract: This Environmental Impact Statement describes a Forest Service Recommended Program and Alternative Program Directions for National Forest System lands, for cooperative and assistance programs with States and private forest landowners, and for Research. The estimated environmental effects of implementing the Recommended Program and each of the alternatives are discussed and compared.

SUMMARY
FINAL ENVIRONMENTAL IMPACT STATEMENT
FOREST AND RANGELAND RENEWABLE RESOURCES PLANNING ACT

THE ASSESSMENT

The 1979 RPA 1/ Assessment describes the present renewable resources situation and projects future supplies of, and demands for, these resources. It also identifies various means to meet the demands and, for some resources, such as timber, analyzes costs and benefits.

This Assessment, as did its predecessor in 1975, shows that demand for the resources produced on or by forest and rangeland (recreation, wilderness, wildlife, forage, timber, and water) will keep on growing in the years ahead. But, if recent management trends continue, supply will increase at a slower pace (pages 20--42). 2/

The implications of these trends vary with the resource. Wood prices will continue to rise in the short and long term with the sharpest increases in the 1980's when housing starts are expected to be at peak levels. Thereafter, prices will continue to increase but at a slower rate as housing demands slow. Prices for minerals, especially energy resources, will increase at rates and patterns close to wood prices.

Although demands for other resources increase steadily, strong price pressures are not expected in the short term. For some resources, such as water and developed recreation, the long-term outlook is for stable prices. However, increasing competition for the amenity resources--dispersed recreation, wilderness, wildlife, and fish--may lead to more restricted and less satisfying opportunities, and a gradual deterioration in the quality of life that the Nation has come to appreciate and expect.

These trends need not continue, however. The 1979 Assessment contains reassurances that more intensive management of our forest and rangeland can increase supplies of all these resources. The major questions are to what extent and by what means should supply be increased.

THE PROGRAM

The 1980 RPA Program is based on findings of the Assessment and shaped by extensive public involvement and Departmental direction. It was prepared with the objectives of achieving Program balance, cost-effectiveness, Program implementation, and responsiveness to current and projected needs (pages 7--15).

Pertinent Policies

Many laws and regulations guide the Forest Service generally in managing the Nation's forests and ranges. In addition, 14 specific issues pertaining especially to land management under the RPA Program were resolved and set forth in terms of policy statements to further guide the planning process. 3/

1/ Forest and Rangeland Renewable Resources Planning Act of 1974, amended.
2/ Page references are within this 1980 Report to Congress.
3/ USDA Forest Service. A recommended renewable resources program. Ch. 1, part IV.

Production of Wood from Private, Nonindustrial Forest Land

Forest Service programs will provide for: (1) improved market and price reporting information; (2) developing an analytical base for improving the cost-effectiveness of existing assistance programs; (3) continuing current levels of technical and financial assistance until additional data on program effectiveness are developed that justify change; (4) pilot forestry loan programs (subject to congressional authorization); and (5) studying tax alternatives that could enhance incentives for improved management.

Increasing Softwood Products from National Forest System Land

Present policies will be continued, including the President's directive to update land management plans on selected National Forests with the objective of increasing the harvest of mature timber through departure from the current nondeclining even-flow policy. Timber tradeoffs made in land allocation decisions and through multiple-use constraints will be carefully considered as part of land management planning. Commensurate with these actions, Forest Service programs will provide for increased investments in intensive timber management, with priority on better sites to the extent that these opportunities are cost effective.

Management of Hardwoods

Forest Service Research and State and Private Forestry programs will provide more detailed resource information. Hardwood programs will remain at present levels until increases can be justified on a cost-effective basis.

Expanding Wood Supplies Through Improved Technology and Utilization

The Forest Service will increase its research, development, and application programs to expand wood supplies through improved technology and utilization. Where efficient, National Forest System timber sale policies will be modified to encourage increased utilization.

Wood Fiber as an Energy Source

Forest Service programs will be expanded beyond current activities where economically efficient to contribute to the goal of increasing the use of wood for energy.

Export and Import of Raw Logs

The present policy of maintaining restrictions on log exports from Federal lands will continue in support of local employment and in response to public comment.

Pesticide Use, Research, and Registration

Present policies will be continued; that is, to use pesticides only when deemed essential to meet management goals, and to develop, practice, and encourage the use of integrated pest management (IPM) methods.

User Payment for Recreational Opportunities

The Forest Service will work toward increasing user fees, over time, to bring them in line with actual direct costs. Increased receipts would recover more of the operation and maintenance costs and reduce competition with the private sector.

Recreation Development on National Forest System Land

The Forest Service will continue current recreation policies which emphasize dispersed recreation while continuing to provide developed recreation on National Forest System land. New emphasis will be placed on energy efficiency in recreation use and development by making recreational opportunities on National Forest System lands more accessible, usable, and enjoyable for urban residents.

Alternative Means for Financing Capital Development on National Forest System Land

The Forest Service will continue to rely on traditional sources, but it also will continue evaluation to determine whether any alternative financing modes would provide significant increases in the net worth of National Forest programs not attainable through traditional funding authorities.

Eastern National Forests

The Forest Service will continue the present policy of administrative decentralization, utilizing land management planning systems consistent with national guidelines.

Forest Service Emphasis on Wildlife and Fish

The Forest Service will increase emphasis on wildlife and fish in the management of the National Forest System. Other forest landowners will be encouraged to practice multiple-use management. The Agency will encourage the consideration of wildlife in developing State comprehensive forestry plans.

Forage for Domestic Livestock

The Forest Service range program will emphasize improvement and maintenance of land productivity for grazing and other resource uses consistent with production efficiency and market value of forage. In areas with significant low income and minority dependency, forage resources would continue to contribute to the quality of life. In addition, emphasis will be placed upon research, development, and application of livestock grazing programs on National Forest System lands to encourage livestock production on private forested ranges.

Mineral Development on National Forest System Land

The Forest Service will expand its capabilities to facilitate minerals explorations on National Forest System lands. The review process of withdrawn lands will be accelerated through land management planning. Emphasis will also be placed on supporting the modification of the 1872 Mining Law. The Agency will continue research programs to develop and apply methods for mining and reclamation, to provide technical assistance, and to cooperate with other Federal, State, and private land managers.

The Alternative Programs Considered

Development of the final program began with the formulation of five Alternative Programs. They were designed to offer the widest range of technically feasible management options possible within the constraints of applicable laws and policies (pages 47--63).

Alternative 1

The first alternative calls for a high level of production of all renewable resources on all forest and rangeland, both public and private. The National Forests would be managed to produce a large amount of market and nonmarket resources with the purpose of keeping commodity prices low and amenity values high. Increased cooperative assistance to States and private landowners would assure rising production from their land as well. Research effort would expand proportionately. Human resource programs would be reduced, however, as increased activity stimulated local economies. Because budget is least constrained, cost would be high but so would the benefits.

Alternative 2

In contrast, this alternative reduces activity on National Forest land to a custodial level, de-emphasizing Forest Service assistance in the production of renewable resources on all land, public and private. Research would remain stable, but human resource programs would increase to take up some of the slack in local economies. Cost, as well as benefits, would be low.

Alternative 3

This is the "median" alternative, falling between the first two and still putting equal emphasis on market and nonmarket resources and on Federal and State and private land. (It is similar to the 1975 RPA Recommended Program.) Under it, amenity values would receive increased attention on the National Forests as would all resources on State and private land. Research would remain at about its current level along with human resource programs. This alternative ranks second in terms of cost, but third in benefits.

Alternative 4

This alternative shifts more responsibility for producing market resources to State and private landowners. It paves the way for greatly expanded use of nonmarket resources--recreation, wilderness, wildlife and fish--on the National Forests. Cooperative assistance to promote intensive development of both market and nonmarket resources on State and private lands would be greatly expanded. Research would reflect these changing roles. Human resource programs would grow in response to the need to protect the resources on the National Forests and to develop them on State and private land. Cost would be moderate and provide a favorable benefit-cost ratio. A higher percentage of the total cost would be allocated to State and Private Forestry.

Alternative 5

The "status quo" alternative continues the present program trends. Production of market resources would be moderate on the National Forests, while nonmarket resource programs for all lands would be low. Research and Federal assistance for human resource programs would not be significantly changed. This alternative ranks in the middle in terms of cost, but slightly lower in benefits.

Modified Alternative

Several other alternatives emerged from the public comments on the draft RPA documents. Most were modifications and combinations of the original five. One of those most often mentioned called for moderate production of all resources from the National Forest System, high production on State and private land, and strong research and human and community development programs. Another proposed a mix of high-market production and low-to-moderate nonmarket production. As an example of how modifications and combinations of alternatives were or could be evaluated, a modified alternative is presented on page 62. It is similar to alternative 4 that emphasizes production of nonmarket resources on National Forests. It differs in that it provides for increased production of market resources on the National Forests and at the same time calls for more wilderness areas.

The Recommended Program

The Recommended Program offers a range of options in order to identify desirable resource goals and at the same time, reflect fiscal uncertainty and changing national needs. It is presented in terms of the High and Low Bounds of this range. Policies are consistent throughout the range.

The High Bound is designed to increase more rapidly the supply of renewable resources and to provide increased protection of environmental values. Nonmarket resources, such as certain recreation activities, surface and ground water, soil productivity and watershed on the National Forests would increase moderately; the current annual production of market resources such as timber, range, and minerals would continue or increase slightly. It would also increase assistance to boost production of all renewable resources (market and nonmarket) on State and private lands. The bulk of the Nation's projected increases in demand for wood would be met chiefly by expanding timber production on the nonindustrial forest lands.

The Low Bound is more responsive to the current economic situation. The Forest Service budget would be held constant through 1985, thus providing more modest output goals. The funding mix provides for modest increases in research and cooperative forestry, with a reduction in National Forest programs. Beyond 1985, increases in production would occur.

The Low Bound reflects economic analyses, careful environmental considerations, policy judgment response to the current economic outlook, and the Assessment over the long term. The High Bound was developed similarly, but reflects an earlier and greater increase in production to meet demands projected in the Assessment, and greater policy response to public preferences.

The actual level of outputs and funding each year would be determined through the annual budget process and land management planning which includes additional analyses of costs, benefits, and consideration of other national priorities:

National Forest System

The National Forests would accommodate nearly double the present recreational use by 2030 at the High Bound of the Program and over 40 percent more at the Low Bound. However, recreational use that can be accommodated at current standards of service and quality would decrease through 1985 at the Low Bound.

Dispersed recreation (backpacking, snowmobiling, hunting, and canoeing) would dominate the scene, but developed recreation (picnicking, camping, swimming, and downhill skiing) would also increase. Wilderness areas would be expanded from 15 million acres to 41 million acres by 1985 at the High Bound and to 33 million at the Low. Minimal amounts would be added after that.

Wildlife habitat improvement would increase to 3.3 million acres per year by 1985 at the High Bound and then taper off as need is filled. The Low Bound of the Program provides for a decrease in annual habitat improvement work by 1985 from 2.3 million acres per year to 1.2. Range conditions would be improved and range use increased by 7 percent at both Bounds by 2030, but the Low Bound shows a decrease in range use of 5 percent through 1985.

Timber production would decline at the Low Bound in the short term but would then increase from 11 billion board feet per year in 1985 to 13.2 billion in 2030. At the High Bound it would increase to 12.5 to 16.4 billion by 2030. This would be achieved through intensification of management on the better sites. Increased utilization would also be encouraged.

The Recommended Program would increase water quality slightly over the 50 years; improved watershed management would reduce the potential for too much or too little water. Opportunities for mineral production would be increased by 65 percent under the High Bound but only 35 percent under the Low. Special attention would be given to energy-related minerals.

The National Forest Management Act of 1976 (NFMA) requires that plans be prepared for the management of the land and resources of each National Forest, including determination of timber harvest levels. Consistent with this legislation, a memorandum of 6/12/79 from the President instructed the Secretary of Agriculture ". . . to use maximum speed in updating land management plans on selected National Forests with the objectives of increasing the harvest of mature timber through departure from the current nondeclining even-flow policy. All relevant economic and environmental implications must be taken into account." The extent of increased harvest possible will be determined for each National Forest in the land management plan for the selected National Forests. The regulations developed pursuant to the NFMA provide for consideration of departures with other alternatives in the National Forest plan when certain conditions are met.

State and Private Forestry

Increased timber production on nonindustrial private ownerships would be the primary goal. Technical assistance in reforestation, timber stand improvement, improved market and price information, and improved utilization of wood would be emphasized where this can be shown to be cost effective. Landowners would also be encouraged to improve management and protection of related resources to realize potential for increased dispersed recreation, forage production, water yield, and wildlife habitat (including endangered and threatened species). Assistance for State forest resource planning would be increased. Assistance for resource management, wood utilization, and planning to support the attainment of resource output goals would expand more rapidly at the High Bound than the Low Bound. Protection assistance at the Low Bound would continue at the 1981 level through 1985 with no significant change in acres affected. These programs, however, may be adjusted in response to further analyses and changes in hazards and risks. The additional analysis will assess

effectiveness of existing and potential approaches for improving productivity on these lands.

Research

Research would focus on providing the necessary scientific basis for improving management and utilization of forest and range resources, and providing the technology for minimizing potential adverse environmental effects of such management. Efforts would be expanded in problem areas of recognized high priority. These include improving wood utilization; developing more intensive forest management practices to increase the Nation's timber supply, and to provide biomass for energy; providing the new knowledge necessary to address current and anticipated environmental issues, such as range, arid land, wildlife management, and tropical forestry; and increasing the land manager's stewardship capability in areas such as protection, and pollution control. A modest increase in basic research, some of it to be done through or in cooperation with other agencies and universities, would provide the background knowledge upon which future refinements in resource management would be based. Here again, the intensity of these efforts would differ by the Program Bounds: by 1985, research activity would increase by more than 80 percent under the High Bound and by about 25 percent under the Low.

Human Resource Programs

Employment and training programs for youth elderly people, and the disadvantaged would increase slightly in response to national needs at the High Bound, but would decrease under the Low due to the elimination of the Youth Conservation Corps (YCC).

Environmental Effects

The Recommended Program was designed to prevent or at least minimize adverse effects on the environment. The effects would vary by resource, locality, and time (pages 15--18).

Physical-Biological Effects

In general, the High Bound of the Recommended Program would benefit the water, air, and most of the life forms associated with forest and rangeland. The effect of the Low Bound would be more neutral than positive. On the National Forests, both the yield and quality of water would increase at the High Bound; at the Low Bound, quality would increase but yield would remain steady at first and then rise slightly. Likewise, air quality would improve at the High Bound but remain unchanged at the Low, with some local exceptions. Refined techniques for alleviating the adverse visual impact of management activities would improve esthetics at both Bounds. Wildlife habitat would be improved and the populations of many species would increase at both Bounds, but more so under the High. Protection of cultural resources would be increased under the High Bound to combat the hazards created by greater activity; under the Low Bound such protection would slip a little at first but continue to improve as at present over the long term.

Economic Effects

Overall, the Recommended Program yields high returns. "Present net worth" (expected benefits minus costs, over the next five decades) of the National

Forest activities would be $48.9 billion at the High Bound and $47.5 billion for the Low, discounted at 7 1/8 percent. Returns to Government for sale or lease of National Forest System resources are expected to increase more than 6 percent per year at the High Bound, and 4 percent per year at the Low Bound through the planning period. Although for the next 5 years at the High Bound and the next 2 years at the Low Bound, National Forest System programs would generally operate at a small net loss, returns to Government would exceed costs thereafter. Employment would also increase as a result of these programs by more than 1/2 million person-years through the planning period at the High Bound, and 1/4 million person-years at the Low Bound.

Social Effects

Social effects would also be generally favorable. Where the forest resource is expanding, as in the High Bound, local communities would be strengthened. Where regional timber production declines (as in the Northwest), community stability would suffer. Increases in the recreation, wilderness, wildlife and fish resources would mean more opportunity for recreation and leisure, as well as social and economic boosts for communities supported by these activities. More extensive mining would also benefit society generally and programs would be adapted to minimize local adverse "boom-town" effects. The long-term maintenance of grazing activity would help many remote communities. The Low Bound program effects would be less favorable than the High, as in Forest Service Regions 5 and 6 where timber sale offerings would be 150-200 million board feet lower.

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July 1980

ACKNOWLEDGMENTS

This abbreviated report to Congress on the status of the Nation's renewable natural resources originated from many sources. Its taproots are firmly embedded, for example, in two technical documents--the 1980 Program and the 1979 Assessment summarized in part 1 and part 2 of this report--that themselves represent the culmination of many hours of applied expertise by their principal authors and contributors.

Richard Benjamin, RPA Program Manager, coordinated the many activities necessary to complete this report.

Bob Wray, Leader, Information Services, North Central Forest Experiment Station, in close collaboration with the principal authors of the above-mentioned documents, researched, drafted, and wrote this report.

Rob Gibson, RPA Editor, Washington Office, was the editorial coordinator.

PREFACE

This report, a synopsis of its two supportive, specialized documents, An Assessment of the Forest and Range Land Situation in the United States, and A Recommended Renewable Resources Program, was prepared by the Forest Service, U.S. Department of Agriculture, for transmittal by the Secretary of Agriculture to the President (and subsequent submittal to Congress) early in 1980.

The two specialized documents referred to were produced to meet the requirements of the Forest and Rangeland Renewable Resources Planning Act of 1974 (RPA), and are the second Assessment and Program required by the Act. RPA directs the Secretary of Agriculture, every 10 and 5 years respectively, to assess and take inventory of the Nation's forest and rangelands and, based on such an assessment, to then recommend a Forest Service Program for ". . . management and administration of the National Forest System, for research, for cooperative State and private Forest Service programs, and for conduct of other Forest Service activities. . . ." The 1979 Assessment and the 1980 Program have been completed. The contents, by their very nature, cover a spectrum of specialized areas that, nevertheless, should be of interest to all concerned citizens.

This report is a synopsis of the 1979 Assessment and the 1980 Program published for the convenience of the reader who seeks general rather than specialized information. However, specific references to key subject areas in the specialized documents are provided for those readers interested in more detail and background.

INTRODUCTION

Natural resources have become a matter of increasing concern in recent years. Renewable resources--things that grow or can otherwise be replenished--have drawn particular attention because they are renewable, that is, with proper management, supplies can be increased and sustained. Current public interest in these resources resulted in the Forest and Rangeland Renewable Resources Planning Act of 1974. It provided the basis for a comprehensive process for planning a program to manage these resources.

Specifically, it directs the Secretary of Agriculture periodically to assess the status of the Nation's forest and rangeland resources and recommend a program for the Forest Service role in their management and use. The Act calls for assessments in 1975, 1979, and every 10 years thereafter, and for new or updated programs in 1975, 1980, and every 5 years thereafter. The Forest Service is assigned continuing responsibility for both these projects.

The 1979 Assessment and the 1980 Program have been completed. This second assessment contains no surprises. Demands for the products and amenities derived from public and private forest and range resources continue to rise, while supplies, under current management systems, increase at a slower rate.

Assuming this trend continues, the prognosis is clear:

- Prices for wood will rise faster than prices for competing materials, most of which are not renewable. Increased mining and use of these materials will further use up the nonrenewable resources, increase energy consumption, and somewhat increase local adverse effects on the environment. 4/

- Costs to the consumer will be greater, either directly or indirectly, for forage 5/ and minerals 6/--two other tangible products of forests and ranges.

- The amenity resources--recreation, wilderness, wildlife and fish--will be more intensively used, but the relative opportunities for the use and enjoyment of many outdoor activities at developed sites will decline per individual. 7/

The Recommended Program is bound by a high level and a low level of resource production. The High Bound would increase substantially the supply of renewable resources while providing increased protection of environmental values. The Low Bound places renewable resources programs in the context of the current economic situation that calls for constrained Federal spending and so provides for more modest outputs. The Recommended Program range embodies what is judged to be a balanced and reasonable plan for managing this Nation's renewable resources for the foreseeable future. Within limits, the Recommended Program is intended to provide much of what is needed by the people from these resources with considerations of relative benefits and costs. 8/

4/ USDA Forest Service. An assessment of the forest and range land situation in the United States, p. 409--411. 636 p. Jan. 1980.
5/ _____. p. 301.
6/ _____. p. 409--411.
7/ _____. p. 139--142, 159; 210--215.
8/ USDA Forest Service. A recommended renewable resources program. Ch. 1.

In developing this Program, various alternatives were considered and reviewed by the public; they are described and compared later. They represent a wide variety of realistic possibilities in terms of emphasis, investment, responsibility, and benefits.

An important ingredient in the development process was the public comment that was extensively sought and carefully evaluated.

This report is divided into three parts:

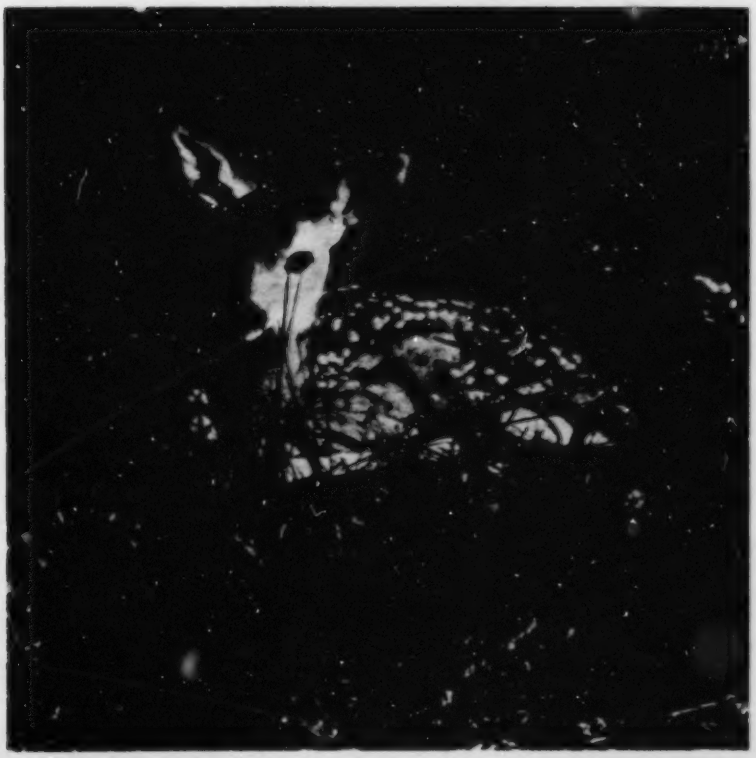
Part I highlights the Recommended Program for the 50-year period beginning in 1981.

Part II reviews the 1979 Assessment that forms the basis for the Program.

Part III outlines the process by which the Program was developed and describes the alternatives considered.

Readers interested in the details are encouraged to consult the full documents: A Recommended Renewable Resources Program, and An Assessment of the Forest and Range Land Situation in the United States.

PART I:
Recommended Program



BACKGROUND

The 1980 Recommended Program will affect many individuals and organizations, public as well as private. But, by the very nature of its charter, the Forest Service will play a major role, directly and indirectly, in its implementation. So, at the outset, it is appropriate to briefly review the responsibilities of the Forest Service and the laws and policies under which it must function.

Role of the Forest Service

Historically, Forest Service activities have been divided into four major categories: National Forest System, State and Private Forestry, Research, and Human and Community Development.

National Forest System

Managing the country's National Forests and Grasslands is the most visible of the Agency's activities. Everyone who has travelled extensively through the Nation's rural areas, especially in the West, has encountered evidence of the Forest Service at work. The familiar "pine tree shield" announces forest boundaries, administrative headquarters, campgrounds, demonstration areas, trails, and other important forest facilities from coast to coast. (See map on page ii.) National Forests and Grasslands cover 187 million acres, about 13 percent of the total forest and rangeland in the country. The Forest Service is charged with managing this land on a multiple-use basis, assuring that it yields commercial products such as wood, forage, water, and minerals, as well as amenities such as recreation, fish, wildlife, and wilderness. In addition, the Forest Service is directed to manage the more than 4 million acres of National Grasslands as a demonstration of sound, practical land use so as to encourage similar conservation practices on associated private lands.

State and Private Forestry

Also important are the Federal forestry programs that extend financial assistance and technical expertise to the various States and, through them, to private landowners and others. By means of these cooperative efforts, State forestry programs are supported and strengthened. Technical and financial assistance is offered in areas such as forest and watershed management, fire protection, planning, insect and disease management, forest products utilization, and urban forestry. Concentrated east of the Great Plains, where most of the State and private forest landowners are, Forest Service technical staffs work out of decentralized offices (see map on page ii) as close to their "clients" as possible.

Research

Supporting all forest and range activities is a comprehensive program of research that seeks to solve those important problems related to the protection, management, and wise use of forest and rangeland for which new knowledge and technology are needed. Distributed throughout the major forest areas of the country, eight Forest Experiment Stations (see map on page iii) carry on research in varied fields such as silviculture, soils, insects, diseases, hydrology, economics, engineering, wildlife, recreation, and urban forestry. In addition, a Forest Products Laboratory devises new and better ways to use wood. The ultimate goal of all this effort is to increase the productivity of forest and rangeland while maintaining or enhancing environmental quality.

Human and Community Development

A fourth activity, involving all the other three, is human and community development. The primary mission of this activity is to help people and communities help themselves within the context of forest and rangeland management. Various programs provide employment, job training, and environmental education to youth and senior citizens, many of whom are economically disadvantaged. Needed work is performed in resource management, environmental protection, and facilities improvement.

Cooperation

As it carries out these assignments, the Forest Service provides national leadership in forestry and natural resource conservation, and in improving the natural environment. Through this broad scope of responsibilities, the Forest Service influences in some way the management of much of the forest and rangeland in the country, from the largest National Forest to the smallest private woodlot.

It does not do the job alone. Other Federal agencies manage forest and rangeland, assist State and private forest and range owners, and carry on research. Federal environmental protection programs also influence all resource management and use. State agencies are increasingly involved in land management and environmental protection. And many industrial and conservation organizations influence the use and productivity of the Nation's forests and related resources. Indeed, the private sector is the major producer of forest and range resources. It is essential that the Forest Service cooperate with all these agencies and organizations as well as work in partnership with the people themselves in developing and carrying out forest and range conservation programs.

Pertinent Laws and Policies

The Forest Service operates under a series of laws, the earliest of which dates back nearly a century. 9/ Since passage of the original legislation in 1891 that authorized the establishment of forest preserves, Congress has enacted many laws (including the Resources Planning Act itself) that expand, define, and guide the Agency's activities. All the programs presented and discussed here reflect the intent of, and conform to, all existing legislation. The

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9/ USDA, Forest Service. The principal laws relating to Forest Service activities. Agriculture Handbook no. 453. 359 p. Sept. 1978.

major laws pertaining to these programs are listed and briefly described in A Recommended Renewable Resources Program mentioned earlier. The Resources Planning Act is reproduced in its entirety as appendix A in that document.

Much leeway is allowed within the limits of these laws in setting objectives and deciding on methods, so the program planning effort must be guided more specifically by clearly defined policies. Many policy questions were raised during the development of both the Assessment and the Program. Among these, 14 were identified as the more important issues that should and could be answered in the form of policy statements before proceeding to develop the recommended program. Questions were selected on the basis of their significance to the interested public and to the RPA Program, and whether they could be resolved within the Forest Service and the Department of Agriculture. 10/ The resulting policies and their resolution are identified in the summary of the final environmental impact statement on page v.

10/ USDA Forest Service. A recommended renewable resources program. Chapter 1, part IV.

THE PROGRAM

The Recommended Program offers a broad spectrum of options. It is described in terms of the two Bounds of the range: "High Bound" and "Low Bound." Specific goals and their impacts on the environment are outlined separately.

The Low Bound reflects economic analyses, careful environmental considerations, policy judgment response to the current economic outlook, and the Assessment over the long term. The High Bound was developed similarly but reflects an earlier and greater increase in production to meet demands projected in the Assessment 11/ and is more reflective of public comments.

The "products" derived from renewable resources are generally thought of in two different categories: those that have a well established market value (forage, timber, water, minerals) and those that do not (recreation, wilderness, wildlife and fish). The former are termed "market resources" and the latter "nonmarket resources." As far as possible, the products are expressed in measurable terms: animal-unit-months, visitor-days of recreation, board feet of timber, for example.

The High Bound of the Program anticipates increased production of both market and nonmarket resources on State and private land. For the National Forests and Grasslands, the Program anticipates increasing future supplies through investment and improved management to meet a share of the Nation's needs from these important public lands. All phases of the Program are to be supported and facilitated by an expanded program of Forest Service research.

At the Low Bound, water, minerals, and wilderness on National Forest land would increase. Other resource outputs would decline (relative to 1981) until 1985, and then gradually trend upward. Cooperative assistance to State and private landowners would increase through 2005 and then level off. The research program would increase throughout the planning period but at a slower rate after 1995.

A summary of activities, outputs, work-force requirements, and costs to accomplish the High or Low Bounds of the Program are shown in tables 1, 2, 3, and 4 on pages 8, 13, 15, and 17 for the National Forest System, State and Private Forestry, Research, and the Forest Service in total. A more complete description of the High and Low Bounds of the Program is presented in the associated document. 12/

National Forest System

A significant change from current program levels in National Forest management at the High Bound of the Recommended Program would be the additional funding provided for minerals and wildlife and fish. Programs for wood, water, and forage would continue to increase at a higher rate than in previous years. The minerals resource program, however, increases more rapidly than any of the others. Recreation and the resources associated with it--wilderness and

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11/ USDA Forest Service. An assessment of the forest and range land situation in the United States. Op. cit. 636 p. Jan. 1980.

12/ USDA Forest Service. A recommended renewable resource program. Ch. 1.

Table 1.--Projected National Forest System Program outputs, activities, and costs--Recommended Program

Program element and activity	Unit of Measure	Base Year 1978	Range	1981	1982	1983	1984	1985	1986-1990	1991-2000	2001-2010	2011-2020	2021-2030
RECREATION													
Developed Recreation Use (includes VIS)	Million RVD	79.6	High	82	89	92	94	97	102	112	128	141	155
			Low		75	73	71	69	72	88	105	120	125
Dispersed Recreation Use (Includes Wildlife & Fish)	Million RVD	130.2	High	132	143	148	153	158	171	184	208	225	238
			Low		117	116	115	114	122	135	160	175	183
Trail Construction/ Reconstruction	Miles	600	High	515	2331	2282	2238	2127	2171	2272	2302	2398	2530
			Low		300	290	280	250	300	1000	1500	1900	1900
WILDERNESS	Million	15.2	High	33	39	40	41	41	42	42	42	42	42
Wilderness Management	acres		Low		33	33	33	33	34	34	34	34	34
WILDLIFE & FISH	Thousand												
Wildlife Habitat Improvement	acres equivalents	2333	High	1302	2896	3016	3130	3275	3015	2558	2108	1442	1418
			Low		1190	1190	1190	1190	1540	1930	1510	1100	1140
Anadromous Fish Improvement	Thousand pounds	NA	High	--	210	581	1675	3753	9680	19586	25494	25494	25494
			Low		42	138	480	1300	3700	10600	13900	13900	13900
RANGE													
Grazing Use (Livestock)	Million AUM	9.9	High	10.0	9.9	10.0	10.0	10.1	10.1	10.1	10.2	10.3	10.6
			Low		9.8	9.6	9.5	9.4	9.4	10.0	10.2	10.3	10.6
TIMBER													
Programmed Sales Offered	Billion board feet	12.2	High	11.9	11.9	12.1	12.2	12.5	12.9	13.7	14.9	15.8	16.4
			Low		11.0	11.0	11.0	11.0	11.0	12.5	12.7	13.0	13.2
Reforestation	Thousand acres	411.3	High	460	463	469	469	470	431	446	461	477	492
			Low		370	357	357	345	426	382	394	409	420
Timber Stand Improvement	Thousand acres	420	High	338	412	414	408	408	366	386	413	418	426
			Low		332	331	330	286	284	250	251	253	255
WATER													
Meeting Water Quality Goals	Million acre feet	370	High	373	403	404	406	407	412	417	421	421	421
			Low		403	404	406	407	412	416	421	421	421
MINERALS													
Minerals Leases and Permits	Thousand operating plans	14.5	High	17	20	21	23	24	27	30	3	37	38
			Low		18	19	20	20	22	24	2	29	31
HUMAN & COMMUNITY DEVELOPMENT													
Human Resources Programs 1/	Thousand enrollee years	14.8	High	12	18	18	18	18	5	5			5
			Low		14	14	13	13	0	0			0
PROTECTION	Dollars/												
Fire Management Effectiveness Index	thousand acres	1111	High	1110	1340	1330	1320	1310	1295	1290			1265
			Low		1550	1560	1570	1570	1524	1370			1270
Fuelbreaks & Fuel Treatment	Thousand acres	392	High	164	306	330	333	337	326	296			309
			Low		161	162	162	160	170	217	2		283
LANDS													
Land Purchase and Acquisition (Excludes Exchange)	Thousand acres	117	High	50	222	219	205	222	371	101	132		178
			Low		186	184	179	175	306	67	103		145
SOILS													
Soil & Water Resource Improvement (Improved Watershed Condition)	Thousand acres	4.2	High	8	28	30	32	33	34	35	32		27
			Low		12	12	13	13	17	17	17	18	18
FACILITIES													
Road Construction/ Reconstruction (Arterial Collector)	Miles	686	High	77	624	715	761	834	1055	1332	1100	970	554
			Low		310	340	350	334	577	820	1070	970	391
Returns to Government	Million dollars 2/	1116	High	1697	1837	1988	2140	2292	2675	3058	4346	5633	6921
			Low		1692	1809	1923	2035	2235	2895	3745	4595	5445
WORKFORCE	Thousand staff years	40.3	High	52.5	62.7	64.8	66.3	68.2	69.4	66.5	67.8	69.5	70.5
			Low		53.2	53.2	52.9	52.8	55.5	53.5	54.4	55.3	54.6
COSTS													
Operational	Million dollars	676 3/	High	644	719	747	764	792	1054	1167	1194	1230	1281
			Low		600	600	603	606	779	953	979	996	1021
Capital Investments 4/	Million dollars	685	High	788	1075	1110	1147	1178	1067	1128	1147	1169	1153
			Low		863	856	844	832	861	894	899	911	862
Backlog 5/	Million dollars	61	High	40	55	54	50	43	32	29	--	--	--
			Low		51	47	46	36	28	22	--	--	--
Total Appropriated 6/	Million dollars	1422	High	1472	1794	1857	1911	1970	2121	2295	2341	2399	2434
			Low		1463	1456	1447	1438	1640	1847	1878	1907	1883
Allocated Funds 7/	Million dollars	244	High	194	377	386	384	389	279	5	5	5	5
			Low		377	386	384	389	279	5	5	5	5
Total NFS	Million dollars	1666	High	1666	2171	2243	2295	2359	2400	2300	2346	2404	2439
			Low		1840	1842	1831	1827	1919	1852	1883	1912	1888

1/ Human Resource Programs whose funds are allocated to the Forest Service are not included in figures beyond 1985.

2/ All costs and returns are shown in constant 1978 dollars.

3/ The 1978 base year figure has been adjusted upward in order to include the effect of the revised fire financing policy which calls for full funding of presuppression activities instead of relying on supplemental appropriations. The amount of the adjustment (92.4) is from the 1979 President's Budget.

4/ NFS capital investments are such things as: sale preparation--live volume; TSI/reforestation; range structural improvements; road and trail construction/reconstruction; wildlife and fish habitat improvement; developed recreation site construction; water and soil resource improvements; and fuel treatments.

5/ Backlog costs are shown here for information only and are included in operational costs. Total appropriated costs are the sum of operational and capital investment costs.

6/ NFS appropriated funds include all YCC and Cooperator Funds.

7/ NFS allocated costs include YACC and other human resource programs, O&C Grants, Land and Water Conservation, and other funds. Costs exclude payments to State and Counties, and Federal Highway Funds.

Abbreviations used: AUM = animal unit month; RVD = recreation visitor day.

wildlife--would grow in prominence as more land and more attention are devoted to them. The Low Bound would provide similar changes, but these would occur later and less strongly compared with the High Bound.

Recreation

Support for rising recreational demand would steadily increase throughout the 50-year planning period under the High Bound. At the Low Bound, services and facilities for recreation demand would decline below current levels through 1985 and then steadily increase. By 1985 the National Forests are expected to provide for 22 percent more recreational use at the High Bound and 14 percent less under the Low at current standards. By 2030, compared to the year 1978's 210 million visitor-days, such use at the High Bound would be nearly double, and is expected to increase by 50 percent under the Low. Dispersed recreation (backpacking, snowmobiling, hunting, canoeing) would become increasingly important on the National Forests especially in the East, the Rocky Mountains, and the Far West. The greatest percentage increase in dispersed recreation is expected in or near the "Sunbelt" States where population is growing fastest. Developed recreation (picnicking, camping, swimming, downhill skiing) would also grow, with the Rocky Mountain Region and California showing the largest growth. Special efforts would be exerted to provide safe, satisfying experiences for the public. Recreational improvements and facilities would be planned and developed in line with national policy to encourage energy conservation as well as to provide better access for urban dwellers. In providing these opportunities and services, the Forest Service would expand the use of fees where appropriate.

Wilderness

Wilderness areas on the National Forests would increase to about 41 million acres by 1985 at the High Bound and by only 1 million acres more after then. At the Low Bound, the Program would increase NFS wilderness to 33 million acres by 1985 and close to a million more by 2030. Large additions are anticipated through congressional action on the current Roadless Area Review and Evaluation (RARE II) recommendations. Much of the new wilderness would be in Alaska, although large wilderness areas would be maintained throughout the western half of the country. The Northeast's wilderness would also grow, approaching 2 million acres by the end of the planning period. But the South's share of wilderness would be stabilized at about half a million acres. For the remaining RARE II study areas and those RARE II areas not designated for wilderness, the Forest Service will develop plans consistent with the National Forest Management Act of 1976 and any additional congressional direction associated with wilderness designation.

Wildlife and Fish

Habitat improvement would vary from the year 1978's 2.3 million acres: at the High Bound it would peak at 3.3 million acres in 1985; at the Low Bound it would peak at 1.9 million acres, but not until the 1991-2000 period. Since the benefits from such improvements are cumulative, the areas needing treatment each year would gradually decline until 2030 when only 1.4 million acres would be treated under the High Bound and 1.1 million under the Low. In addition, wildlife and fish habitat in general would be protected on the National Forests, with special emphasis on the needs of endangered and threatened species.

As a result of fish habitat improvement, harvest of anadromous fish would increase, with the greatest surge in production expected in Alaska. Where sufficient data exist, population targets would be set for various species of wildlife and fish.

Range

The Forest Service would work toward improving range conditions so that the land can be brought back to full productivity. On land where it is clearly economical to produce forage, every effort would be made to achieve optimum production, as national policy requires. Then a balance would be sought between forage production and grazing use. Wildlife and water values would be protected on all grazing land within the National Forest System. Land that proved to be submarginal for grazing would be put to some other use. Grazing use remains stable under the High Bound; by 1995, grazing levels would recover from near-term reductions projected for the Low Bound. As a result, livestock grazing would increase 6 percent by 2030 at both Bounds, rising gradually from less than 10 million animal-unit-months to nearly 11 million. The modest increase would occur mostly in the northern Rocky Mountains and Great Plains.

Timber

Timber production would be reduced from the 12.2 billion board feet planned for 1980 to 11.9 billion in 1981. Then, it would gradually rise to 12.5 billion board feet in 1985 and to more than 16 billion board feet per year in 2030 for the High Bound. Under the Low Bound it would decline to 11 billion board feet in 1982 to 1985 and then increase to 13.2 billion in 2030. Most of the long-term rise in production would be in the South, although the Northeast and the northern Rockies would also show significant increases. These increases would be achieved by practicing more intensive forestry on the better sites (particularly in the East and far West), and modifying timber sale contracts to encourage more complete utilization of trees where this is a practical alternative.

In addition, as a step to reduce anticipated sharp increases in wood product prices and supply shortages during the 1980's, the President has directed the Secretary of Agriculture in a memorandum dated 6/12/79 ". . . to use maximum speed in updating land management plans on selected National Forests with the objectives of increasing the harvest of mature timber through departure from the current nondeclining even-flow policy". Under this direction, harvest levels could be temporarily raised to address short-term national and regional economic concerns after a careful evaluation of long-term biological and economic effects. All proposals for such "departures" would be evaluated through the Forest Service's regular land and resource management planning process, including public involvement.

In response to the President's direction, the Forest Service has reordered its priorities for completing individual National Forest plans so as to concentrate planning efforts on additional National Forests which have a large inventory of old-growth softwood suitable for home construction. 13/ The National

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13/ 36 Code Federal Regulations 219.5(f).

Forest System land and resource management planning regulations and the Forest Service Manual 14/ provide specific direction in formulating alternatives for the management of all National Forest resources. This process will provide an opportunity to examine a broad range of National Forest production possibilities, associated costs, and environmental effects for all resources. Specific consideration will be given to a range of increases of timber harvests over recent cutting levels in National Forest plans for the first decade of the planning period.

National Forest plans will be subject to the requirements of the National Environmental Policy Act of 1969, 15/ which provides an opportunity for public input as National Forest land and resource management plans are developed. Any departures proposed by a Regional Forester are subject to approval by the Chief of the Forest Service.

The National Forest planning process is expected to be completed in 1985. Forty National Forests have been identified by the Forest Service where departure may be a viable option. The following 16 National Forests have been selected for accelerated planning:

National Forests scheduled to have completed draft plans by Dec. 1980:

Lolo	Mt. Hood
Sierra	Deschutes

National Forests scheduled to have completed draft plans by Dec. 1981:

Flathead	Shasta-Trinity
Kootenai	Siskiyou
Six Rivers	Wallowa-Whitman
Klamath	Olympic

National Forests scheduled to have completed draft plans by Dec. 1982:

Gifford Pinchot	Mt. Baker-Snoqualmie
Rogue River	Wenatchee

Departure volumes in these and other National Forest plans may provide opportunities in addition to the range of outputs shown in the Program, or may constitute a preferred means of reaching the output target. The plans will be implemented as they are completed. These plans will also be used for adjusting National Forest resource goals during the 1985 update. Additional volumes and costs that may be obtained through departure will be shown in the Annual Evaluation Reports for the RPA Program.

Reforestation under the High Bound would increase from the present level of 440,000 acres to 470,000 acres by 1985, decline after that time, reflecting completion of backlog acres, and then rise as timber harvest increases. Low Bound reforestation follows a similar pattern, but some backlog acres would be deferred until after 1985. Timber stand improvement increases from 338,000 acres in 1981 to 408,000 acres in 1985 and 426,000 acres by the end of the planning period at the High Bound. At the Low Bound, this acreage would decline to 286,000 in 1985 and 255,000 by 2030.

14/ Forest Service Manual, Interim Directive 6, Ch. 1920.
15/ 83 Stat. 852 as amended; 42 United States Code 4321 et. seq.

Water

To comply with water quality goals as specified in the Clean Water Act, water resources on the National Forest System would be managed at the High and Low Bounds to protect water quality. Improvements would be designed to achieve water quality for waters not currently meeting water quality goals. At the High Bound, a greater number of water yield improvement projects would be carried out to increase yields in selected water-short areas as compared with the Low Bound.

Minerals

The mineral resources on the National Forests would be developed to the fullest extent possible, consistent with adequate environmental protection and national policy. The procedure for processing geothermal and mining permits would be streamlined to allow the annual issuance of such permits to increase about 65 percent over the short term (by 1985) at the High Bound, and 35 percent under the Low. By 2030, the number of operating plans handled would increase more than 2 1/2 times for the High Bound and more than double at the Low. Special attention would be given to development of energy-related minerals. Most of the increased mining would occur in the Rocky Mountains and Great Plains.

State and Private Forestry

The major thrust in State and Private Forestry is the production of wood. The most critical demand on the Nation's timber will be for softwood sawtimber where public lands would continue to play a major role during the decade of the 80's. The best opportunities to increase softwood supplies are on private nonindustrial forest land. The leveling off of harvests from industrial land accentuates the importance of nonindustrial private land. It is here that much of the increased demand for softwood would be met through increased harvest and reforestation.

Technical assistance to timber growers would concentrate on regeneration following harvest, stand improvement, and marketing. Special efforts would be made to motivate landowners to replant their land promptly after harvesting and to use genetically improved planting stock. The goal is to boost reforestation from the current 326,000 acres per year to more than 1.2 million acres by 1985, and nearly 1.7 million by 2030 at the High Bound. Low Bound increases would be slightly less: nearly 1.1 million acres by 1985 and nearly 1.5 million by 2030. Increases in acreage receiving cultural treatment would follow a similar pattern: to nearly 750,000 acres by 1985 and 1.5 million acres by 2030 in the High Bound; to nearly 700,000 acres by 1985 and over 1.2 million acres by 2030 in the Low Bound. This would be incorporated into management plans for individual private landowners; the aim is to develop 400,000 such plans per year by 1985.

Estimated additional wood volume available through improved utilization would increase to 234 million cubic feet by 1985 and 325 million cubic feet by 2030 in the High Bound and to 178 million cubic feet by 1985 and 277 million cubic feet by 2030 in the Low Bound. To help small producers with the unfamiliar task of selling his timber, a national program of timber price and market reporting (similar to that for other farm products) would be developed. Existing technical assistance programs, various financial incentives and other alternatives would also be studied to determine how nonindustrial private landowners can most effectively be encouraged to produce timber and other renewable resources.

Table 2.--Projected State and Private Forestry Program outputs, activities, and costs--Recommended Program

Program element and activity	Unit of measure	Base year 1978	Range	Annual units 1981	1982	1983	1984	1985	1986-1990	1991-2000	2001-2010	2011-2020	2021-2030
RECREATION													
Cooperative Technical Assistance for Dispersed Recreation	Thousand acres	81	High	109	157	206	254	304	355	476	556	622	645
			Low		156	168	181	196	216	237	243	245	251
WILDLIFE & FISH													
Cooperative Technical Assistance for Wildlife Habitat Improvement	Thousand acres	170	High	117	376	633	891	1151	1277	1575	1644	1704	1750
			Low		373	437	508	586	600	614	635	626	636
RANGE													
Cooperative Technical Assistance for Range Improvement	Thousand acres	50	High	65	114	162	211	259	304	410	444	482	511
			Low		113	126	139	152	171	190	219	218	224
TIMBER													
Reforestation (RFA, FIP, ACP)	Thousand acres	326	High	545	926	1019	1120	1219	1245	1303	1439	1571	1677
			Low		921	967	1023	1079	1113	1149	1263	1376	1468
Timber Stand Improvement (RFA, FIP, ACP)	Thousand acres)	275	High	375	614	660	699	742	828	1029	1209	1360	1492
			Low		612	640	661	687	815	943	1086	1207	1247
Timber Prepared for Harvest	Million cubic feet (MMCF)	225	High	237	274	312	348	386	444	544	609	670	717
			Low		271	280	290	302	321	340	346	346	350
Woodland Owners Assisted	Thousand Owners	165	High	187	219	246	273	300	317	362	459	504	540
			Low		217	232	248	266	278	290	353	351	381
Improved Utilization of Wood	Million cubic feet (MMCF)	164	High	134	159	184	209	234	245	267	281	305	325
			Low		157	164	170	178	205	232	244	261	277
PROTECTION													
Insect & Disease Management Surveys	Million acres	600	High	461	493	551	589	635	645	669	694	694	694
			Low		461	461	461	461	588	635	635	635	635
Rural Community Fire Protection	Thousand approved applications	3	High	--	4.1	4.1	4.2	4.2	4.3	4.1	4.2	4.3	4.4
			Low		4.1	4.1	4.2	4.2	4.3	4.1	4.2	4.3	4.4
Fire Loss on Protected Area	Thousand acres burned	1700 1/	High	2400	2100	2000	1900	1750	1750	1750	1750	1750	1750
			Low		2400	2400	2400	2400	1950	1750	1750	1750	1750
WATER, MINERALS, LANDS, AND SOILS													
State Forest Resource Planning	Million acres	--	High	138	138	150	157	164	182	188	187	190	190
			Low		138	140	142	134	138	142	143	142	142
Cooperative Technical Assistance for Landowner Forest Management Plans	Million acres	3.2	High	3.0	3.6	4.2	4.7	5.2	5.4	5.9	7.6	8.9	9.9
			Low		3.6	3.8	3.9	4.0	4.4	4.8	5.0	5.1	5.2
Cooperative Technical Assistance	Person years	--	High	20	33	46	58	71	74	71	68	67	65
			Low		33	36	39	43	48	53	52	52	52
WORKFORCE	Thousand staff years	1.0	High	0.8	1.4	1.4	1.5	1.6	1.6	1.7	1.7	1.7	1.7
			Low		1.2	1.2	1.2	1.2	1.4	1.5.	1.6	1.5	1.6
COSTS STATE AND PRIVATE FORESTRY													
Operational	Million dollars 2/	30	High	23	32	35	39	43	44	45	46	47	48
			Low		25	26	27	27	34	38	40	39	40
Capital Investments	Million dollars	50	High	38	52	58	63	69	71	74	75	76	78
			Low		42	42	43	44	56	62	65	64	65
Total Appropriated 3/	Million dollars	80	High	61	84	93	102	112	115	119	121	123	126
			Low		67	68	70	71	90	100	105	103	105
Allocated 4/	Million dollars	37	High	28	54	58	61	65	69	73	73	73	73
			Low		54	58	61	65	69	73	73	73	73
Total S&PF	Million dollars	117	High	89	138	151	163	177	184	192	194	196	199
			Low		121	126	131	136	159	173	178	176	178

1/ S&PF-Cooperative Fire Loss base figure is calendar year 1977.

2/ All costs are shown in constant 1978 dollars.

3/ Projected estimates of funds appropriated to the Forest Service for cooperative forestry assistance under P.L. 95-313.

4/ Projected estimates of funds appropriated to other USDA agencies for programs which receive assistance from the Forest Service and State forestry agencies, including (1) forestry practices under the Agriculture Conservation Program and the Forestry Incentives Program funded through the Agricultural Stabilization and Conservation Service; (2) Rural community fire protection funded through the Farmers Home Administration; and (3) funds allocated to the Forest Service by the Soil Conservation Service for the forestry aspects of watershed planning, flood prevention, river basin surveys and investigations, and resource conservation and development.

Protection assistance at the High Bound would reduce acres impacted by fire and insects and disease. At the Low Bound, there would be no change in acres affected. These programs, however, may be adjusted in response to further analyses and changes in hazards and risks.

Research

The research goals are to develop new and better ways to increase the production of market resources on forest and rangeland, and at the same time to find ways to more effectively achieve amenity and environmental values. In general, the current research effort would be expanded to deal with the special problems that would arise as land management programs are intensified. Although a major emphasis would be on finding ways to extend timber supplies, research would also be directed toward the efficient management of all other renewable resources.

As the major market resource produced on forest land, timber would draw a good share of research attention. One concern would be to develop ways to increase the softwood timber supply and so help alleviate the growing shortage problem. Management systems for eastern hardwoods would be improved also. But the major effort would be directed toward utilization. Research would range from developing more efficient harvesting and transportation methods to creating new ways to use wood. Special efforts would be made to develop better systems for producing and using wood as an energy source.

Research also would seek better ways to enhance the development and use of nonmarket resources. As outdoor recreation increases and wilderness areas expand, some basic yet complex questions need to be answered: for example, how to offer solitude for the ever-increasing number and variety of forest and rangeland users, and how to keep them from abusing the land while using it. More precise techniques are needed to monitor the ecological process, as well as to determine what to do if it gets out of balance. Wildlife habitat researchers would study the special needs of endangered and threatened species, seeking to determine what these needs are and then how to satisfy them. Fisheries experts would be doing the same for anadromous fish.

Research on range ecology would lead to increased productivity of rangeland and ultimately to increased livestock production. Water research would take several directions: increasing water quality and stabilizing flow, minimizing nonpoint source pollution, determining water requirements for recreation and fish and wildlife, managing snow for a variety of uses, and investigating the growing "acid rain" problem. And finally, current techniques would be refined and new ones developed for eliminating mine pollutants and restoring mined land to productive use.

Many of these areas of research are already being explored by Forest Service scientists. The Recommended Program requires that some of these studies be intensified, others redirected and, where necessary, new ones begun. The actual intensity of effort devoted to research would depend on the resources available. At the High Bound of the Program, research effort would increase from almost 1,000 scientist years in 1981 to more than 1,800 scientist years in 1985 and about 3,000 scientist years by 2030. Comparable figures for the Low Bound would be much lower: about 1,100 scientist years by 1985 and almost 1,500 scientist years by 2030.

Table 3.--Projected Research costs
Recommended Program

Program Element	Units of Measure	Base year 1978	Range	Annual Units 1981	1982	1983	1984	1985	1986-1990	1991-2000	2001-2010	2011-2020	2021-2030
COSTS													
Operational	Million dollars 1/	105.8	High	108	139	156	173	190	230	269	285	301	316
			Low		113	118	123	129	143	151	159	164	168
Capital Investments	Million dollars	2.7	High	3	5	7	9	12	8	6	4	4	4
			Low		4	4	5	6	6	4	3	3	3
Total Appropriated	Million dollars	108.5	High	111	144	163	182	202	238	275	289	305	320
			Low		117	122	128	135	149	155	162	167	171
WORKFORCE	Thousand staff years	3.1	High	3.5	4.3	4.7	5.1	5.4	6.4	7.4	7.7	8.2	8.6
			Low		3.5	3.5	3.6	3.6	4.0	4.2	4.3	4.5	4.6

1/ All costs are shown in constant 1978 dollars.

Human and Community Development

The High Bound of the Recommended Program would provide for slightly increased capability in all the Human and Community Development programs, except for the Youth Conservation Corps which would be held at its maximum authorization. The number of enrollees would be increased. Forest Service staffing would remain the same as in 1978 and would assist local authorities in setting up human resource programs through cooperative agreements. At the Low Bound of the Program, Human and Community Development efforts would be reduced, and the Youth Conservation Corps (YCC) eliminated. The principal Forest Service role in most of these programs would be to continue facilitating their implementation.

EFFECTS ON THE ENVIRONMENT

One of the guiding principles in the development of the Recommended Program was to prevent or at least minimize adverse effects on the environment. And yet, increased activities on forest and rangeland would inevitably impact the human environment in various ways. Where the effects are adverse, direct effort would be made to minimize or mitigate them: the greater the impact, the greater the effort. This is implicit in the Program itself. The effects would vary by resource, locality, and time, but their general results can be summarized on a nationwide basis. 16/

Physical-Biological Effects

What happens to the land itself, the water and air that surrounds it, and the life forms that live on it is of primary concern. In general, the High Bound of the Recommended Program would benefit all these resources, with a few exceptions; the Low Bound of the Program would be less neutralizing of the adverse affects.

On National Forest land, water quality would be slightly improved and yield increased at the High Bound; at the Low Bound, the Program would result in improved water quality but no increase in yield in the short term and only

16/ USDA Forest Service. A recommended renewable resource program. Ch. 1, part III.

slight increases later on. Air quality at the High Bound would be improved, especially in areas where it is currently below standard, but in some regions a short-term increase in emissions would have a temporary negative effect. At the Low Bound, air quality conditions would not change significantly. Esthetics would improve at both Bounds of the Program as more is learned about how to alleviate the visual impact of management activities. Nevertheless, some forest vistas would be periodically affected as timber harvesting alters the color and texture of the landscape. And, although rehabilitation efforts would cover most of the scars left after mining, some of the disturbance to the landscape caused by earth-moving activities would be irreversible.

Wildlife and fish habitat improvement would improve the quality of the environment for species affected. More specifically, such activity is designed to maintain the current upward trend of some species and reverse and slow the decline of others, including those endangered and threatened. These benefits would be somewhat greater at the High Bound than the Low.

More intensive activity on forest and rangelands would expose the cultural resources to somewhat greater hazards because of greater potential of conflicting uses. In anticipation of such hazards, a special effort would be mounted at the High Bound to protect and preserve these unique resources. Such effort would be less at the Low Bound, resulting in reduced protection of cultural resources in the short term but a return to the present level in the long run. However, there would be also less conflict due to the generally lower level of activity. A major part of the Program would be the continued protection of forest and related resources from wildfire, insects, and diseases.

Economic Effects

Another critical aspect of a nationwide program of forest and rangeland management, such as the one set forth here, is its effect on the economy in terms of national net benefits. Although not all benefits from such a program can be measured in dollars, there is still the need to evaluate its impact in economic terms. Values for each resource were based on the estimated market value that the consumer or processor is willing to pay (for example, the stumpage value, grazing fee, royalty rate, site fee, etc.).

Overall, the Recommended Program yields high returns. "Present net worth" of the new National Forest System and its programs--total benefits minus costs, discounted at 7 1/8 percent--is $48.9 billion at the High Bound and $47.5 billion at the Low, or about 4 percent greater than existing programs. Returns to the Government for sale or lease of National Forest System resources are expected to increase more than 6 percent per year at the High Bound, and 4 percent per year at the Low Bound through the planning period. For the next 2 to 5 years, the National Forest System programs would be generally operating at a small net loss, but thereafter returns to the Government would exceed costs. For instance, by 1995, returns would rise to between $2.9 to $3.1 billion per year while costs would edge up to between only $1.9 to $2.3 billion, leaving a surplus of nearly $0.8 to $1.0 billion.

Other economic benefits are also impressive. Cash returns to county governments would increase to over $508 million per year by 1985 under the High Bound and $448 million under the Low. At the same time, annual employment directly or indirectly supported by Forest Service programs would increase to 1/2 million person-years at the High Bound, and 1/4 million person-years at the Low Bound.

Table 4.--Projected Forest Service budget requests based on the Recommended Program

Forest Management Protection and Utilization	1980 Budget Authority	Range	Recommended Program 1981	1985	1995
				(million dollars) 1/	
FOREST RESEARCH					
Land and Resource Protection Research	49.431	High	50	82	116
		Low		56	65
Renewable Resource Management and Utilization Research	55.627	High	58	108	153
		Low		73	86
Total Forest Research	105.058	High	108	190	269
		Low		129	151
STATE AND PRIVATE FORESTRY					
Cooperative Land and Resource Protection	42.235	High	34	63	63
		Low		34	63
Cooperative Renewable Resource Management and Utilization	20.389	High	24	44	56
		Low		34	37
General Forestry Assistance	9.163	High	3	5	--
		Low		3	--
Total State & Private Forestry Cooperation	71.787	High	61	112	119
		Low		71	100
NATIONAL FOREST SYSTEM					
Land and Resource Protection	315.279	High	330	448	647
		Low		330	439
Renewable Resource Management and Utilization	483.764	High	476	602	869
		Low		482	634
Total National Forest System	799.043	High	806	1050	1516
		Low		812	1073
Total Forest Management Protection and Utilization	975.888	High	975	1352	1904
		Low		1012	1324
Construction and Land Acquisition 2/	510.905	High	450	687.4	529.5
		Low		452.9	597.0
Youth Conservation Corps	54.000	High	38	60.0	60.0
		Low		0	0
Acquisition of Lands for National Forests--Special Act	0.235	High	--	--	--
		Low			
Acquisition of Lands to Complete Land Exchanges	0.155	High	--	--	--
		Low			
Range Betterment	5.900	High	6.9	7.0	7.0
		Low		6.9	6.9
Construction and Operation of Recreation Facilities	3.850	High	3.9	4.0	5.3
		Low		2.0	3.9
Timber Salvage Sales	11.000	High	11.5	11.5	11.5
		Low		11.5	11.5
Brush Disposal	40.509	High	42.5	55.0	55.0
		Low		42.5	42.5
Cooperative Work, Other, & KV	56.959	High	96.2	96.2	96.2
		Low		96.2	96.2
Timber Purchaser Road Construction by Forest Service	15.000	High	20.0	20.0	20.0
		Low		20.0	20.0
Total Appropriated	1714.491	High	1644	2284	2688
		Low		1644	2102
Total Allocated	202.489	High	222	454	78
		Low		454	78
Total Forest Service	1916.980	High	1866	2738	2766
		Low		2098	2180

1/ All costs are in constant 1978 dollars.

2/ Includes Roads and Trails for States (10% Fund), Research Construction, FA&O, Recreation Use, Forest Roads and Trails, Land Acquisition, and Weeks Act.

Social Effects

Social effects, such as population dynamics, community economy, and leisure opportunities are expected to be generally favorable throughout the program range with more or greater favorable effects at the High Bound. Negative impacts would tend to be localized and temporary as communities supported by renewable resource activities adjust to changing conditions. At the Low Bound, social effects of the Program would approximate the prevailing situation. Because of short-term capital investment limitations, some investment opportunities for future social benefits would be deferred.

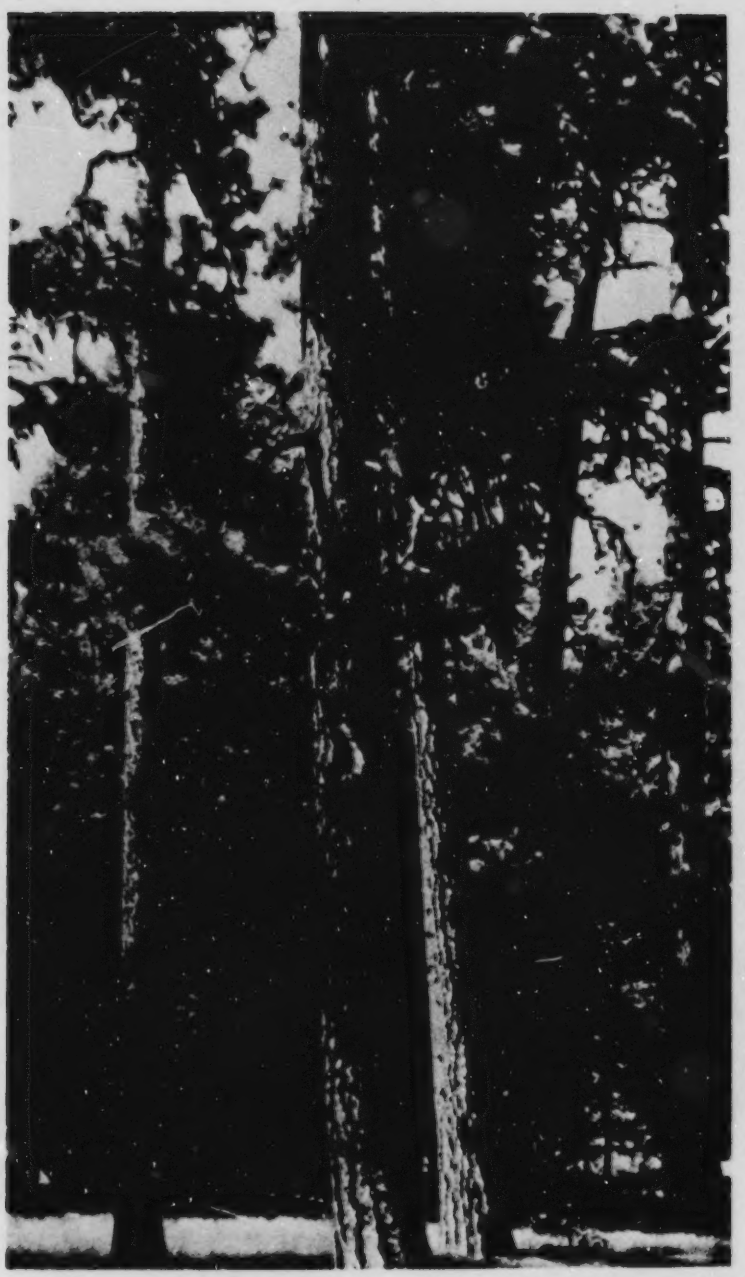
Where wood harvesting or processing is the single or dominant means of livelihood, impact would vary depending on whether available timber increases or decreases. In areas where the forest resource is expanding (notably in the South), local economies would be strengthened and so, too, would the social structures. On the other hand, where timber production declines over the next 20 years, dependent communities would be adversely impacted. These impacts would be intensified at the Low Bound of the Program.

Increased recreational and leisure opportunities would result from the broadened recreation, wilderness, and wildlife and fish aspects of the High Bound of the Program. Communities that serve as access points or service centers for various outdoor activities may experience social changes if the "back to nature" movement continues to spread. Communities particularly affected would be those that become major centers for large recreational developments, such as ski areas. At the Low Bound, because increases in such activities would be minimal, social changes would be minor.

Increased mining would benefit the entire population as the Nation's needs for energy and minerals are met. New developments would be carefully planned and monitored (in cooperation with other agencies) so that adverse "boom-town" effects suffered by local communities would be minimized.

Both Bounds of the Recommended Program would improve rangeland conditions and provide for a slight rise in grazing activity over the 50-year period, which should help to sustain communities in sparsely populated areas.

PART II:
Assessment



Sections and Regions of the United States
Alaska
Rocky Mountains and Great Plains
Pacific Coast
Wash
Oreg
Pacific Northwest
Calif
Pacific Southwest
Mont
N Dak
S Dak
Idaho
Wyo
Nev
Utah
Colo
Nebr
Great Plains
Rocky Mountains
Kans
Ariz
N Mex
Minn
Wis
Mich
North Central
Iowa
Ill
Ind
Ohio
Mo
North
Northeast
Maine
N Y
Vt
N H
Mass
Conn
R I
Pa
W Va
Md
Del
Ky
Va
N C
Tenn
S C
Ga
Ark
Miss
Ala
Southeast
Okla
Tex
La
South Central
Fla
South
Hawaii
Puerto Rico

SETTING THE STAGE

The first step in planning a program for the management and use of a resource is to take inventory of that resource--find out what is available to work with. Next, to put this information in perspective, it is important to get some idea of what the demand has been, is, and might be. Then, to complete the assessment process, ways must be described to reconcile supply and demand. This means determining if reasonable means exist to increase the supply to meet the expected demand; accepting price rises or, in some cases, dampening demand. The Assessment portion of this report attempts to do all three--setting the stage for development of the Recommended Program.

Looking into the future is a precarious task at best, but it is especially so when renewable resources are involved and decades are the time units. Anticipating demands on forests and rangelands must be guided by certain assumptions about future economic, social, and environmental trends. Here are the major assumptions used 17/:

Population of the United States will increase another 81 million by 2030. (See figure 1 on page 22). In the past 50 years, population rose at an average annual rate of 1.2 percent. The annual rate is declining now and is expected to decline to about 0.3 percent by 2030. Population will grow fastest in the South and Pacific coast regions and to a slightly lesser degree in the Rocky Mountain region. But the major concentrations of people will remain in the north central region and along the Atlantic and Pacific coasts.

Gross national product will double by 2000 and double again by 2030. (See figure 2 on page 23). Its makeup will change, however: the proportion derived from manufacturing and construction will decline while the share derived from transportation, trade, and other services will increase. Nevertheless, growth in manufacturing and construction will continue to be great, requiring increasingly large supplies of energy and raw materials.

Disposable personal income will closely follow the trend of the gross national product. This, coupled with the projected increase in population, means more purchasing power for more people.

Environmental restrictions on industry will continue to increase. The significance of this trend may be reduced by necessary tradeoffs between environmental concerns and economic needs.

Energy cost will rise faster than other prices in general. This reverses a century-long trend, but is clearly inevitable in view of the diminishing supply of some energy sources, the potential removal of the remaining price controls on natural gas and oil, and added environmental costs.

Sufficient capital will be available to support the intensified use of forests and rangelands and the increased output of renewable resources products. Investment history and the projected increase in gross national product give no reason to doubt that adequate capital will be available.

17/ USDA Forest Service. An assessment of the forest and range land situation in the United States, p. 8. 636p. Jan. 1980.

Figure 1

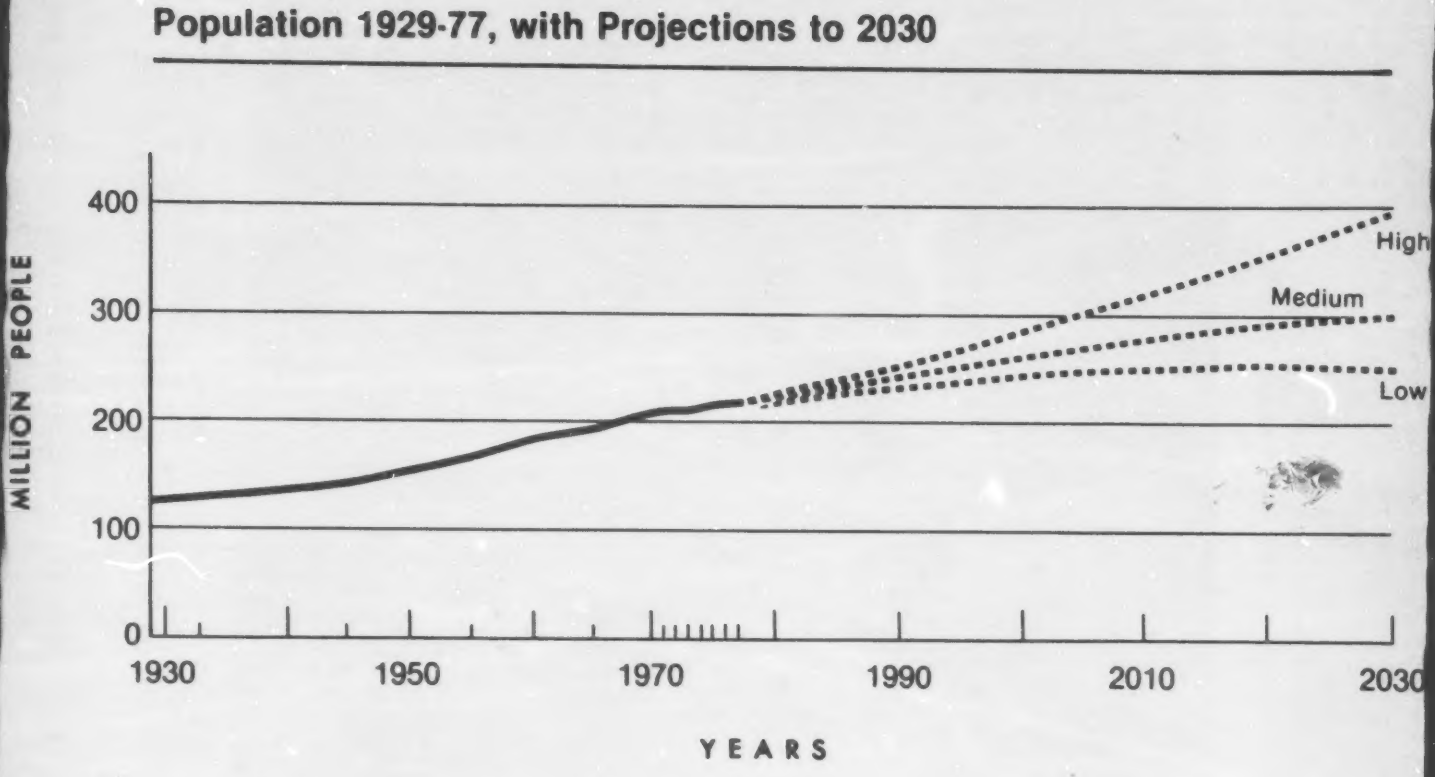
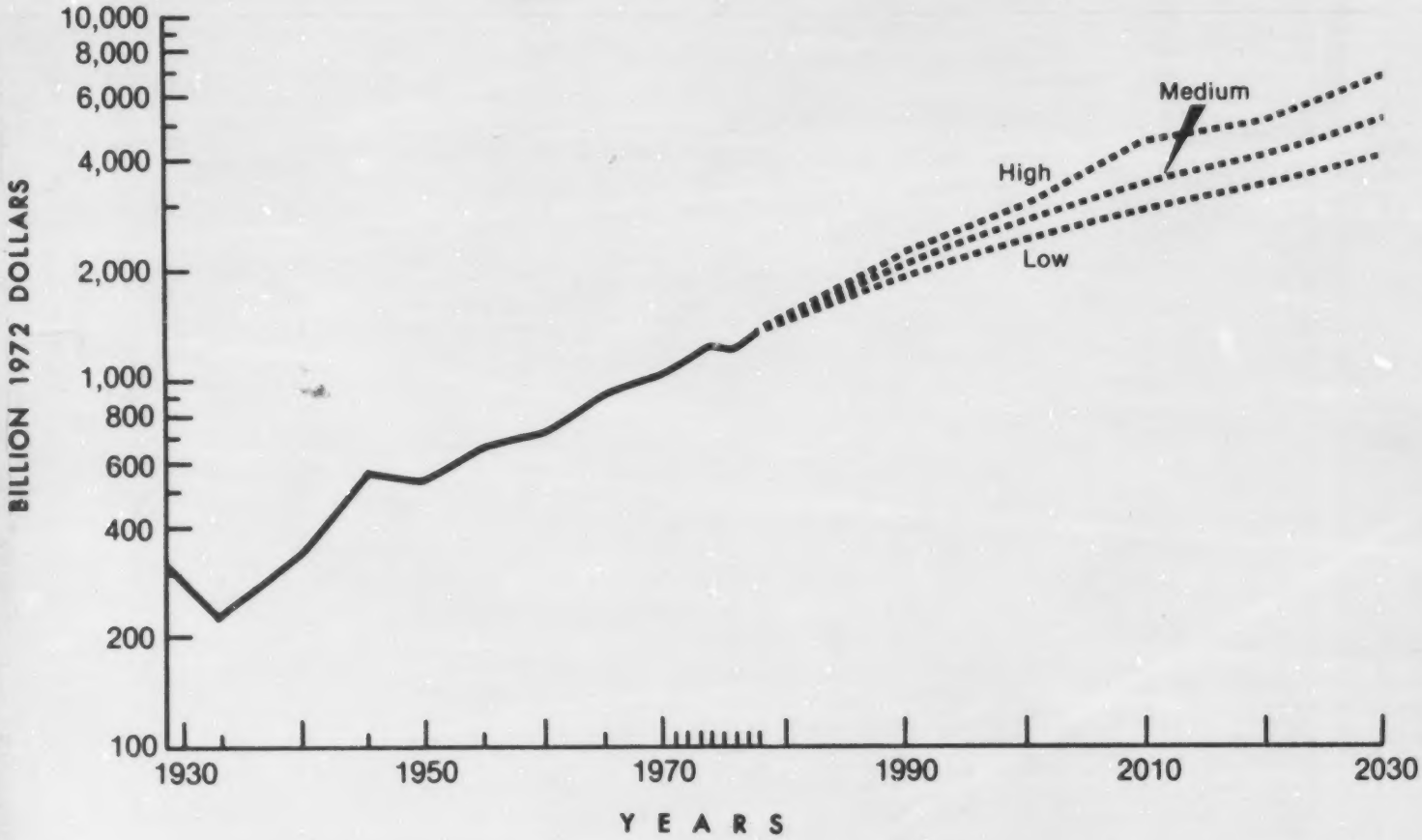

Population 1929-77, with Projections to 2030
MILLION PEOPLE
400
300
200
100
0
1930
1950
1970
1990
2010
2030
High
Medium
Low
YEARS

Figure 2

Gross National Product 1929-77, with Projections to 2030



Other more specific assumptions are reflected in the following discussions of supply and demand and are covered more fully in the supporting reference document, An Assessment of the Forest and Range Land Situation in the United States.

FOREST AND RANGELAND AREA

First, before considering the supply and demand situation resource by resource, a broad look at the land and water base from which these resources are derived is appropriate. 18/

About two-thirds of the total area of the United States is forest or rangeland, including associated water. These 1.6 billion acres are about equally divided between forest and range, with a slight edge on the range side. The resources, both tangible and intangible, produced on or from this land are essential to the economic and social well-being of the country. Not only are the basic raw materials for commerce produced here--timber, forage, minerals, and water--but provided also is the natural environment for much of an active people's outdoor recreation. Nearly every acre of forest and range land is useful and used for one or more of these purposes.

The kind and amount of forest and rangeland vary greatly from region to region. To present the situation clearly, the country is divided into four geographic regions--North, South, Rocky Mountains and Great Plains, and Pacific Coast--each of which has distinct characteristics. (See map on page 20. Territories and possessions are included in the nearest region.)

North

Generally north of the Mason-Dixon Line and east of the Great Plains, this northeast sector of the country was originally almost completely forested. Even now it is similar to the Pacific Coast section (including Alaska and Hawaii) in having more than a third of the land covered by forest. In contrast, it is less than 1 percent rangeland. 19/ This is hardwood country: 80 percent of the forest area in the region is occupied by hardwood species. Various mixtures of hardwoods (maple, beech, birch, aspen, elm, and ash) make up the forests in the northern part of this region while the oak-hickory type (including black walnut, the finest of our fine hardwoods) dominates in the southern part. The one-fifth of the forest land in the North that is in softwoods (conifers) is mainly spruce and fir, although the eastern pines (white, red, and jack) are making a comeback in natural and planted stands. Nearly all this northern forest is available for timber production. For the last few decades growth has exceeded harvest.

Forests share this northeast quadrant with more than half the Nation's people. So, in addition to being important as a timber resource for lumber, veneer, and pulpwood, these northern forests are in great demand for outdoor recreation of many kinds. Most of the forest land in the North is privately owned, much of it in small holdings. Only 8 percent is in Federal ownership. Clearly, the future of forests and forest use in this region is primarily in the hands of private individuals.

18/ USDA Forest Service. An assessment of the forest and range land situation in the United States. p. 25--43. 636 p. Jan. 1980

19/ _____. p. 43--50.

What little rangeland there is in the North is highly productive. Besides the prairie land in Missouri, there are extensive areas of wet grassland in Maryland and New Jersey. Most of this privately owned land is used for hunting and other wildlife-related outdoor recreation as well as livestock production.

This region contains more than half the Nation's total water area. Inland lakes and rivers provide most of the water for domestic and industrial use as well as serving as fish and waterfowl habitat. The larger water areas, the Great Lakes and coastal estuaries, support commercial and sport fisheries, waterfowl, recreational boating, and commercial shipping.

South

The South, from Kentucky to the Gulf and from Texas to the Atlantic, is more than 40 percent forested. Rangeland covers another 20 percent. 20/

The heavily forested eastern half of this region is one of the world's major timber-producing areas. Fast-growing southern pines (loblolly, longleaf, shortleaf, and slash) are the mainstay of the South's softwood lumber, plywood, and pulpwood industries; they occupy 44 percent of the region's forest area. Hardwoods are important in this region too, covering nearly half the forest land. Again, the oak-hickory type is the most extensive, ranging from highly productive coves in the southern Appalachians to drier, less productive sites west of the Mississippi. The bottomland forests of the Mississippi Valley are valuable sources of oak, gum, cypress, elm, ash, and cottonwood, but clearing for soybeans and other crops since 1962 has drastically reduced their area.

The South's forests are widely used for grazing, and some large tracts are managed specifically for wildlife. Quail, turkey, deer, and squirrel are hunted extensively throughout. Various kinds of forest recreation are popular, particularly in the mountainous areas.

Because of good sites, favorable climate, and fast-growing species, the South is becoming the greatest timber-producing area in the country. Here, as in the North, most forest and rangeland is privately owned, including large holdings by private industry.

The extensive area of range, from the wet grassland of Florida to the more arid, brushy land in Texas, plays a significant role in the Nation's cattle industry. This land also supports much wildlife, and is locally important for outdoor recreation. The generally dry climate in much of the rangeland area limits farming and other more intensive uses.

The South has more inland water area than any other region. Much of this is in natural water bodies, notably in the Mississippi Delta and Florida. But large reservoirs add greatly to the total inland water area. In addition, there are extensive waterways along the Gulf and the Atlantic coasts. These lakes, rivers, and estuaries are heavily used for recreation. They include crucial winter habitat for migratory waterfowl.

20/ USDA Forest Service. An assessment of the forest and range land situation in the United States. p. 50--57. 636 p. Jan. 1980.

Rocky Mountains and Great Plains

This vast central region, covering one-third of the Nation, is less than one-fifth forested, the least of all the regions. On the other hand, it is more than 60 percent rangeland. 21/

Most of the forest land is in the Rocky Mountains. Nearly one-third of it is pinyon-juniper type, of little value for commercial timber but used extensively for domestic fuelwood, grazing, and some kinds of outdoor recreation, and important for watershed protection. Commercial species, mostly conifers, range from ponderosa pine on the dry sites near the desert floor, through lodgepole pine and Douglas-fir on the slopes, to spruce and fir on the higher, moister sites. In contrast to the eastern regions of the country, about two-thirds of the forest land here is federally owned, mostly in National Forests. Although supporting a locally important segment of the softwood timber industry, much of this forest land is low in productivity and not well suited for growing trees. But the character of the tree species and the spectacular mountain settings make it valuable for recreation, wildlife, and wilderness. Watershed values are vital to the region and to neighboring States.

This sprawling, sparsely populated section of the country, long the heartland of the range livestock industry, contains half the Nation's rangeland. The productivity of this land for forage varies. The prairies and mountain meadows yield the most forage per acre, the sagebrush country is moderately productive, the arid and semiarid land produces the least.

Less than 40 percent of the rangeland is federally owned; most of it is in arid areas of the Rocky Mountains and is administered by Bureau of Land Management. Recreational use of rangeland is increasing, especially in the mountains. Some species of wildlife are plentiful. Water yield is less than on forested land, but rangeland is equally important for watershed protection.

Water is scarce in this region and hence valuable. Despite the tremendous area, there are only a little more than 9 million acres of surface water here. Aside from the Great Salt Lake, most of the water area is in reservoirs in the Missouri, Colorado, and Columbia River basins. The arid climate accentuates the importance of water, and all water areas are heavily used for recreation, industry, farming, and domestic purposes.

Pacific Coast

The five States in this region have one common bond: they are all touched by the waters of the Pacific Ocean. Beyond that, there is tremendous diversity among them. They range in size from the largest State in the Nation to one of the smallest, and in climate from arctic to tropical. 22/

More than a third of all this land is forest, but half of that is in interior Alaska. Half the region is rangeland, three-fourths of which is in Alaska where productive capacity is low. Under present economic conditions, most of the forest and rangeland in the interior of Alaska is best suited for use as wildlife habitat. In the three "west coast" States--Washington,

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21/ USDA Forest Service. An assessment of the forest and range land situation in the United States. p. 57--65. 636 p. Jan. 1980.

22/ _____. p. 65--73.

Oregon, and California--nearly half the land is forest, more than one-third range.

The humid coastal forests provide one-third of the Nation's softwood harvest, including major species such as Douglas-fir, Sitka spruce, and western hemlock. The inland forests in these three States resemble those in the Rocky Mountains but are more productive. Important species here are ponderosa pine, Douglas-fir, the true firs, sugar pine, lodgepole pine, and incense-cedar. At the low elevations are some hardwood, chaparral, and pinyon-juniper.

Pacific coast forests and the waters within them support a rich variety of wildlife and fish. These mountains and forests and streams combine to make some of the most spectacular scenery in the country, drawing an increasing number of recreationists each year. They are also extremely important as watersheds for the population centers throughout the region.

Nearly three-fourths of the forest land in the Pacific coast region is currently under Federal administration, but this pattern will change when State and native claims in Alaska are settled. In Washington, Oregon, and California, the Forest Service and the Bureau of Land Management administer half the forest land. Total forest area in these States has slowly declined since 1952 and the trend is expected to continue.

Rangeland in Washington, Oregon, and California is similar to that in the Rocky Mountains: more than half of it is covered with sagebrush and desert shrubs. Grassland occurs in or near the mountains and in California's Central Valley. The vast area of rangeland in Alaska is generally of low productivity and important chiefly for wildlife. About half the rangeland in the three West Coast States, and nearly all of it in Alaska, is federally owned, chiefly by the Bureau of Land Management. Again, the Alaska situation is changing drastically as State and native holdings increase.

Only 3 percent of this region's total area is in water, but the coastal rivers and streams are vital to the important salmon fishery and to sport fishing. Water impoundments for hydroelectric power and irrigation are essential to the economy of the three west coast States.

OTHER RESOURCES

To complete the perspective on forest and rangeland resources it is important to consider three others, separate but related--mineral-bearing land, urban forests, and wetlands--as well as that universal "resource," air. 23/

Mineral-bearing Land

Most mining in the United States is done on forest and rangeland simply because most minerals are found beneath such land. For example, coal in Appalachia, iron and copper in the Lake States, and lead in Missouri all underlie heavily forested land. And most of the oil and coal in the West underlies forest and rangeland. Mineral production affects and is affected by other uses of forest and rangeland. Production of most important minerals is increasing and is likely to continue to increase as long as they last. Although there is still plenty of coal in the East, most of the increased production (it may triple by 2000) is expected to come from western forest and

23/ USDA Forest Service. An assessment of the forest and range land situation in the United States. p. 73--90. 636 p. Jan. 1980.

rangeland where it costs less to mine because it can be strip-mined. Iron ore production (expected to increase 75 percent by 2000) will continue to be centered in Michigan, Minnesota, and Wisconsin. Production of nonmetals (phosphate rock, sand, gravel, and stone) will double during the 20-year period. The phosphate will come mainly from Federal land in the northern Rocky Mountain States and the others from widely scattered sources on private land.

Urban Forests

Shade trees, street trees, parks, and "green belts" are extremely valuable in or near urban areas. They serve some of the same purposes that large, remote forests do. They provide places to play, to relax, and--on a small scale--to "get away from it all." They beautify, screen out unwanted sights and sounds, harbor wildlife, improve air quality, modify temperature extremes (and thus save energy), protect the soil, and conserve water. They provide a special kind of recreational and esthetic opportunity for those who may not have the time or the means to use more distant, extensive forests. They are the primary forest environment for millions of Americans and so are an important--and unique--part of the total forest and range land resource.

Wetlands

An integral part of the total forest and rangeland resource, wetlands deserve special attention because of their importance as breeding areas and habitat for fish and wildlife. Wetlands are unique segments of forest and rangeland that support vegetation requiring saturated soils for at least part of the year. They occur in many forms: swamps, marshes, bogs, sloughs, potholes, backwaters, mud flats, ponds. Although disturbances to soil and vegetation on such areas can upset their fragile ecosystems, timber harvesting, livestock grazing, and other activities can be done safely on most of them if reasonable care is exercised.

Air

Although not usually considered a "resource" in the strictest sense of the word, air is part of the environment and thus appropriate to this discussion. Air is of special concern here because its quality affects and is affected by forest and rangeland. In addition to being a sustainer of life, air is also a carrier of many substances--some good, some bad. Pollution from industrial centers can damage nearby forests and ranges. Affected plants suffer reduction in growth, increased susceptibility to insect attack, and even death. Remoteness used to be insurance against such hazards, but the alarming spread of "acid rain" (a product of sulfur and nitrogen oxides in the atmosphere) poses an increasing threat to plants, animals, and people wherever they are. Forests and ranges are not only victims of airborne substances, they are producers as well. Growing plants emit water and oxygen into the air--a plus; decaying plants and burning plants yield hydrocarbons and tons of particulates--a minus. Clearly then, the air that surrounds forests and ranges must be considered when developing management plans for them.

RECREATION

Outdoor recreation use has been increasing for more than two decades. Recreation on National Forests increased 37 percent in the past 10 years and State park use rose 45 percent during the 8 years from 1967 to 1975. Increased population, higher incomes, more leisure time, and greater mobility have all combined to make "the great outdoors" more accessible and affordable to many--a tangible manifestation of the "good life." Rising demand for recreational opportunity, although expected to increase at a slower rate in the future, underscores the need to take stock. 24/

Supply and Demand

The potential for outdoor recreation in the United States is tremendous. To be sure, certain areas are excluded from such use because of ownership, other uses, accessibility, or the nature of the land itself. Nevertheless, despite the fact that only a small fraction of the total forest and rangeland is currently managed exclusively for recreational use, much of the 1.6 billion acres of such land is suitable and available for some kind of outdoor activity. For purposes of planning and management, outdoor recreation can be divided into two categories--developed, and dispersed--each with a wide variety of activities, special requirements, and problems, some of which are common to both. The two are inseparably linked, however.

Developed recreation involves activities that are concentrated in relatively small areas and typically require physical improvements. Parks, campgrounds, picnic areas, marinas, and ski resorts are examples. Dispersed recreation includes activities in which participants range over larger areas, singly or in small groups; here more land is needed but little or no development. Examples are hiking, snowmobiling, hunting, fishing, cross-country skiing, canoeing, and backpacking.

Most of the developed sites and much of the dispersed area available for outdoor recreation are on public land, although private facilities are increasing. The bulk of Federal forest and rangeland is in the West (96 percent); State, county and other public land predominates in the East. Four agencies--the Forest Service, National Park Service, Bureau of Land Management, and Corps of Engineers--are the principal Federal suppliers of recreational opportunities. About one-third of the recreation on Federal land is provided by the National Forests.

Biggest recreation increases are in snow- and water-related activities. Better facilities, equipment, and clothing, and the rediscovery of the enjoyment of cold-weather sports have resulted in year-round participation in areas where outdoor recreation was once limited to the summer season. And the U.S. Coast Guard reports that, in a recent 3-year period, boat ownership across the country increased more than 30 percent. Interest in outdoor recreation will increase in the future, especially in the South and Southwest and snow activities in the North and West. But the rate of increase is expected to moderate and the mix of activities to change, chiefly because of the general aging of the population and rising energy costs.

Private land and capital are playing an ever-increasing role in the developed recreation field, where large investments in facilities are required.

24/ USDA Forest Service. An assessment of the forest and range land situation in the United States. p. 93--149. 636 p. Jan. 1980.

This trend is encouraged by public land administrators who feel their major responsibility is providing opportunity for recreation that cannot be economically or practically provided by the private sector. They see recreation activities that promise a profit (ski resorts, campgrounds, swimming pools, marinas) most appropriately operated as private enterprises, either on private land or leased public land.

Private land also offers opportunities for dispersed recreation. Nearly 30 percent of the private, noncorporate, and more than half the corporate forest and rangeland in the United States is currently open to the public for hunting, fishing, picnicking, horseback riding, off-road vehicle use, or other forms of recreation. Unfortunately, the trend is toward reducing the amount of private land open to public recreation. Landowners complain of vandalism, littering, theft, fire, and interference with other activities.

Satisfying the Demand

Given the available resources and anticipated circumstances, what can be done to satisfy the expected increases in demand for recreational opportunities?

One obvious way to accommodate increasing numbers of visitors to recreational sites is to provide additional developed facilities. For example, more boat ramps and beaches would expand opportunities for water activities. A continuing need is to refurbish and maintain existing facilities, especially those that have deteriorated because of overuse. Safe water supplies and adequate waste disposal are two other needs.

Improving accessibility to unused or underused recreation areas on private and public lands would make more areas available for outdoor activities, and relieve pressure on some of the more heavily used areas. Lack of public access is often a major obstacle to participation in recreational activities. In many cases, public acquisition of small, key tracts of land makes large areas accessible for recreational purposes. Examples would be rights-of-way for roads and trails, and boat landings on lakes and rivers.

Another way to expand outdoor recreational opportunities is to promote greater use of private land for this purpose. This could be done through a cooperative effort among public agencies, private interests, and individual landowners. Such cooperation could take various forms: coordinated management plans for adjacent public and private land, Federal and State technical assistance to private landowners, revised liability laws, and financial inducements (tax credits, insurance) for the private owner. Educational programs and stricter law enforcement would be necessary to eliminate the problems (vandalism, littering, etc.) that prejudice the private owner against allowing the public access to his land. Also, slower expansion of the public recreation sector could enhance private investment opportunities.

As recreational use of forest and rangeland increases, new problems will be created and old ones intensified. Ways must be found for recreationists to avoid intruding on each other and other uses (and vice versa). It is necessary to know how to preserve the outdoor environment while enjoying it, and to know more about the users themselves--what they are seeking and how best to satisfy their needs. So, a strong program of research will be required to solve land and people problems associated with growing recreational activity.

WILDERNESS

Wilderness is a unique resource, the use of which has grown significantly in the past 30 years. Oversimplified, wilderness is land on which man's handiwork is nowhere evident and people are transient visitors. Roads, buildings, motors of all kinds are excluded by law. Recreation is the primary use of these areas; natural beauty and seclusion are big attractions. Travel into wildernesses is restricted mainly to foot, animal, or canoe. Other uses of wilderness include scientific, educational, and cultural activities and vicarious enjoyment ("just knowing it's there"). Wildlife and watershed values are inherent, and some grazing is allowed. In 1978 there were about 16.1 million acres of officially designated wilderness in the United States. Nearly 90 percent of this is administered by the Forest Service, the rest mainly by the National Park Service and the Fish and Wildlife Service. 25/

The supply of wilderness can be increased by adding to the National Wilderness Preservation System as well as improving the capacity of what is available through effective management. Proposals before Congress could more than triple federally owned wilderness areas. Nine States have already established their own wilderness systems and some corporations are designating "pocket" wildernesses on their land. Some increase in non-Federal wilderness is possible, but tradeoffs with mineral, timber, forage, and other interests would have to be negotiated. More research on the wilderness resource itself is also needed. Little is known about how wilderness is affected by use and management activities.

WILDLIFE AND FISH

Fish and wildlife are important renewable resources and integral parts of the forest and rangeland scene. About 3,000 different vertebrates (amphibians, reptiles, fish, birds, mammals) and perhaps 10 times that number of invertebrates (insects, mollusks, nematodes) share the forest and range environment. 26/

Like most other renewable resources, fish and wildlife have economic, social, and ecological values. Certain species are commercially sought and sold, mostly for food or fur. The salmon fishery, for example, plays an important part in the economy of the northern Pacific coast. Social values have to do with human activities that depend on wildlife: recreational hunting and fishing, bird-watching, photography, and so on. Ecological values are based on the premise that all life forms in the total ecosystem should be protected.

Supply and Demand

Unfortunately, there is no adequate "head count" of fish and wildlife populations, so estimates of supply must be made in terms of how well demand is being filled. Most economic demands have been growing. Some examples: a continuing increase in the consumption of fish is seriously taxing the supply of salmon in the Northwest and Alaska. The prospect has stimulated interest in aquaculture--the production of fish in controlled environments. A few private hatcheries are already producing and releasing salmon and beginning to harvest and market them when they return to fresh water to spawn.

25/ USDA Forest Service. An assessment of the forest and range land situation in the United States. p. 149--162. 636 p. Jan. 1980.
26/ _____. p. 164--243.

Fur harvests in the United States have also been rising in recent years, primarily in response to growing foreign markets. In the recent past, about 13 million furbearers per year have been trapped or raised in this country for the commercial market. Half were muskrat, a third raccoon and nutria, and the rest a variety of other species. Many experts feel there are enough of most animals to meet the near-future demand for furs, but somewhat questionable is the supply of the most valuable cat species.

Social or recreational use of fish and wildlife has been growing and is expected to continue. However, because of the aging population, the increase will probably be at a slower rate, especially for the more strenuous activities such as big-game hunting. By the same token, fresh-water fishing will likely show great gain. Nonconsumptive activities--wildlife observing, photography, and the like--will doubtless increase too. Generally, the largest increases will take place in the South and West--the "Sunbelt" States that attract retirees.

Migratory waterfowl hunting is popular along the major flyways from coast to coast. The supply varies according to species. Duck populations fluctuate with the weather in the major breeding grounds. Harvests after wet years have reached 16 million birds, but following a dry year as few as 4 million may be taken. Production of geese, on the other hand, has been nearly constant because breeding conditions in the far North have been relatively stable. Annual goose harvests average 1.6 million.

From an ecological viewpoint, the supply of any species is too low if it is threatened with extinction--a concept that resulted in the Endangered Species Act of 1973. So far, this law has prevented several environmental disturbances that would have jeopardized the habitat of certain wildlife and fish species. A few protected species have already recovered sufficiently to be removed from the endangered list. The process of identifying and rehabilitating endangered and threatened species and their habitats is still new and will no doubt be refined.

A supply of wildlife and fish less than projected would restrict many prospective hunters, fishermen, and other outdoors people in their choice of recreational activities. It would also slow the growth of recreational equipment and service industries. However, it would improve the economic environment for investors because of the anticipated higher prices caused by the restricted supply.

Ecological impacts of a loss of wildlife and fish would be more subtle but perhaps more irrevocable. Extinction of a species diminishes our natural heritage. It eliminates opportunity for study and may throw parts of the ecosystem out of balance.

Satisfying the Demand

Increasing the supply of wildlife and fish to meet the projected demand at current implicit prices depends on the specific opportunities available and a continuing national commitment to accept the necessary changes in economic and social priorities. As such commitments are made, the resource managers would have a variety of options for increasing populations. However, rising demand should also induce more private enterprise in this area. Wildlife and fish resources can be maintained and improved through managing animal habitat and use, offering technical and financial assistance to private landowners, and

continually adding to knowledge about resource management as it relates to fish and wildlife habitat and population. Most lands and waters that support wildlife and fish are also used for other purposes. The challenge will be to balance these uses. Of course this is what multiple-use land management is all about.

In addition to not damaging habitats, fish populations can be increased by some positive actions. Some of these are: artificially creating new spawning areas, constructing impoundments, clearing obstructions to migration, and supplementing wild stocks with hatchery-raised fish. "Planting" fish has resulted in some remarkable successes. The tremendous fishery created in the Great Lakes by introducing coho and chinook salmon 20 to 25 years ago is a dramatic example.

Wildlife management in most instances means managing the habitat. And this has commonly meant manipulating vegetation through other uses of the land. Careful planning and execution of activities related to grazing, logging, and road construction can also protect and improve the environment for wildlife and fish. Specific examples include fencing livestock out of wetlands and away from streamside vegetation; harvesting timber so as to leave adequate slash, ground vegetation, nesting sites, and den trees for birds and animals; designing and building roads to prevent or minimize erosion; and using fire to improve plant species composition and increase vegetation diversity. Endangered and threatened species may need special treatment: preserving habitats and protecting them from further encroachment, transplanting animals to unoccupied or newly developed habitats, building artificial nesting facilities, and controlling competing species.

Another way to help assure adequate supplies of wildlife and fish is through population management. Licensing, and legal bag limits generally regulate harvests of game species to maintain optimum distribution of age and sex. Except for migratory waterfowl, this is a State responsibility.

Private land supports much of the wildlife in the Nation. Generally, little is done by private owners to enhance their land for this purpose, although most are interested. Reluctance to get involved in wildlife management may stem partly from not knowing what to do. Technical assistance to describe and demonstrate techniques for improving habitat has been effective in increasing wildlife populations as well as the owner's enjoyment of his land.

And finally, in order to match wildlife and fish supplies to future demands there is a need to know more: to find out more about habitat needs and how to inventory and manage habitat; to develop better ways of taking animal censuses; to know more information on the preferences of wildlife users, values and to know how to make wildlife and fish management compatible with other resource uses. In short, a comprehensive program of research is essential to the build-up and maintenance of adequate wildlife and fish resources in the United States--and to safeguard endangered and threatened species.

RANGE

Supply and Demand

Most of the Nation's 1.6 billion acres of forest and rangeland can be classified as range, but only about half this area is actually grazed. More than 90 percent of the grazed range is in the West, chiefly in the Rocky Mountains and Great Plains regions. In addition to providing forage for livestock and big game, range is also used for various kinds of recreation, mainly hunting, hiking, bird-watching, and off-road vehicle use. 27/

As would be expected, demand for forage follows demand for red meat, although at a slower rate. Demand for other products of cattle and sheep (wool and hides), although important, has little effect on demand for range grazing. With the overall rise in per-capita consumption of beef and the projected growth in population, demand for beef is projected to increase 51 percent by 2030.

Satisfying the Demand

Range use has been stabilized since about 1940 at about 213 million animal-unit-months (an animal-unit-month is the amount of feed necessary to feed one cow for one month). The biological potential of the land currently being grazed is more than double that figure, so meeting future demand is technically possible without increasing the area grazed. However, this would require large investments and intensive management on the grazed area. This would involve physical improvements to control livestock movement and distribtion; seeding of improved forage species to hasten rehabilitation of depleted ranges; increase forage palatability, or extend the grazing season; improving water access; and controlling noxious plants. Some local reductions in livestock numbers would be necessary where overgrazing is damaging the range.

Some forest land can be managed to produce more forage. Grasses, herbaceous plants, and shrubs invariably proliferate for 5 to 10 years after a mature stand of trees has been harvested. And cultural practices, such as thinning, can be planned and carried out in some situations to increase the amount and extend the period of forage production as well as to improve the forest stand itself.

Commercial livestock and big game commonly share the same land and sometimes competition for food and water is severe. Much of what is done to improve range for livestock will also benefit wildlife.

Inasmuch as two-thirds of the Nation's range is privately owned, any effort to increase the productivity of rangeland will require largely private action. Public agencies can provide technical and financial assistance where it may be needed and increase public rangeland productivity where economically efficient.

Much can be done to increase forage production with existing technology. However, continuing research on problems and opportunities such as renovating deteriorated range, biological control of pests and noxious plants, use of prescribed fire, and the development of genetically superior strains of grasses, forbs, and shrubs, is needed to accelerate the rate of improvement.

27/ USDA Forest Service. An assessment of the forest and range land situation in the United States. p. 247--314. 636 p. Jan. 1980.

TIMBER

The production of timber is and will continue to be one of the major uses of forest land. Wood is a versatile and universally used material. Because national inventories have been made regularly for over 5 decades there is more and better information about timber supply and demand than about any of the other renewable resources. 28/

Nearly one-third of the Nation's land area is forested, but about one-third of that is either not capable of growing commercial timber or is reserved for other uses. That leaves 482 million acres of productive and available timber land. More than 28 percent of this "commercial" land is publicly owned (about 89 million acres of it in National Forests); another 14 percent is held in large tracts by forest industries. But the bulk of it (about 58 percent) is in small woodlands in the East owned by a broad spectrum of private citizens-farmers, doctors, homemakers, lawyers, retirees--people with widely varied backgrounds, social and economic status, and reasons for owning forest land. This great diversity of woodland owners brings an added challenge to the already complex process of developing a comprehensive forest management program for the Nation.

Supply

Timber volumes are usually expressed in the terms commonly used to measure the intended products: for example, lumber is measured in board feet, pulpwood in cords, plywood in square feet. However, to facilitate comparisons in the discussion that follows, timber volumes will be expressed exclusively in cubic feet and percentages.

The commercial forest land supported about 800 billion cubic feet of standing timber in 1977. Nearly two-thirds of this volume was in sawtimber (trees large enough to cut into lumber or veneer), one-fourth was in poletimber (trees too small for sawtimber but at least 5 inches in diameter), and the remaining timber was in usable cull and dead trees.

Commercial timber is either softwood (coniferous) or hardwood (deciduous). Softwoods are more abundant (61 percent of the total) and are used mostly for lumber, construction timber, plywood, poles, and pulpwood. Hardwoods, although less abundant, are used for products such as furniture, paneling, interior woodwork, pallets, pulpwood, and--increasingly--firewood. Softwoods are concentrated in the South and West. Over 50 percent of the softwood sawtimber volume is currently on National Forests in the Northwest much of it in unroaded old-growth timber stands. The bulk of the hardwood timber is in small, private holdings in the East.

About 4 billion cubic feet of timber are lost each year to insects, disease, fire, or storms. One fourth of this volume is on National Forests, mostly in areas so remote that detection and treatment are difficult and salvage commonly impossible.

Trees in this country collectively grow at the rate of nearly 22 billion cubic feet of wood per year--that's an impressive 60 million cubic feet per

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28/ USDA Forest Service. An assessment of the forest and range land situation in the United States. p. 316--427. 636p. Jan. 1980.

day! In 1976, eastern softwood growth exceeded volume harvested by more than 50 percent; hardwood growth was even greater, more than double the harvest. In contrast, in the Pacific Coast region due to the large proportion of mature to overmature timber, wood is being harvested faster than it is being replenished by new growth, especially on private land. In 1976, removal of timber exceeded growth by half a billion cubic feet. Nationwide, during the past quarter century, softwood timber volume (in trees 5 inches in diameter and larger) increased 8 percent and hardwood 45 percent. The Nation's forests provided 276 billion cubic feet of wood for domestic and export use in the past 25 years; of this, National Forests provided almost 49 billion cubic feet.

The current ratio of timber growth to removal shows that our hardwood forests and eastern softwood forests can support a much larger timber harvest. If recent trends in forest management continue, it will be possible to attain even larger harvests in the future.

For example, the amount of timber available for harvest nationwide each year will increase two-thirds by 2030. The softwood sawtimber supply in the Pacific coast region will diminish during this period (by about 25 percent), but this loss will be more than offset by the tremendous growth expected in the South. In 1976, the South and the Pacific coast each produced about two-fifths of the available supply of softwood timber; by 2030, it is predicted the South's portion will have swelled to about half while the Pacific coast's will have shrunk to one-fourth. Large percentage increases are projected for the North as well as the Rocky Mountains, even although they will be small components in the national softwood supply.

However, in order to support increased harvests of southern softwoods in the future, active timber management is required, especially the regeneration of stands after harvest. Recent trends indicate that regeneration after harvest is not sufficient to sustain projected harvest levels. As a result, there is a projected decline in the net annual growth of southern softwoods on private ownerships after 2000. Opportunities to increase regeneration occur on both industry and small nonindustrial private forest ownerships.

Although on a smaller scale, the South's share of the hardwood supply will also increase during the period while the North's share will decrease correspondingly.

Demand

Timber supply will increase in the next half-century, but demand is projected to increase faster and there will be further price increases. Consumption of wood, in its various manufactured forms, has been steadily rising--nearly one-third since the early 50's--and projections indicate the upward trend will continue. During the next 50 years, demand for wood is expected to increase about 60 percent under equilibrium price projections: from 16 billion cubic feet in 1976 to 19 billion in 1990, and 26 billion by 2030.

Leading the list of most-sought-after products is pulpwood, followed by lumber, plywood, and composition board. Use of wood for fuel will also increase, reversing a long-time decline. Lumber and plywood demand will rise sharply in the next decade or so, but as the housing boom levels off after 1990, demand for these products will increase more slowly. Utilization of composition board (particleboard, hardwood, and insulation board) is expected

to nearly triple during the next 50 years, partly because solid-wood products will be more costly. Hardwood demand will increase faster than softwood, eventually making up one-third of the total--reflecting a growing share in the total pulpwood harvest.

Satisfying the Demand

Assuming less land in the future for growing timber than is available now, how are these rising demands going to be met? If the present trend continues and future demand increases faster than supply, the two will be reconciled by an upward price adjustment that will lower the demand and increase the supply until demand and supply are balanced.

If future timber supply-demand trends do indeed develop as projected, wood will become relatively scarcer and its price will rise. Softwood timber prices will climb 2 to 2-1/2 percent per year above the general price level with the greatest increase in the South. The price outlook for large hardwood trees and preferred species is similar but price pressures will not be generally strong until after 2000.

Rising prices would have various and widespread impacts. Growth of timber processing industries would be slower but still expanding. Some users of timber products would switch to other materials--metals, plastics, glass, and concrete--the manufacture of which creates more pollution and consumes more energy than does wood manufacture. And finally, of course, retail prices for wood products would increase, impacting the consumer.

So far, this discussion has been about a continuation of present management and utilization trends. But trends can be changed. And there are several realistic ways to increase wood supply.

Part of the needed wood supply is now, and will continue to be, provided by imports. The United States is a net importer of wood and wood products. For, even though exports increased at a much faster rate than imports during the past 25 years, they still amount to little more than half the imports. Timber products imported are chiefly softwood lumber, woodpulp, and newsprint from Canada, and hardwood-plywood from the tropics. Much of the timber shipped abroad is in the form of softwood sawlogs from the Northwest--mostly to Japan.

The greatest opportunity to increase timber supply over the long term lies within the Nation's commercial timberland, capable of growing much more timber much faster than it is now doing. For the short term--the decade of the 80's--when housing demands are expected to place added pressures on supply, a significant potential source of additional timber supply to meet these higher demand pressures are the large inventories of mature and overmature timber on public land, particularly on certain National Forests in the West. Realizing such potential would require approval of temporary departure from the even-flow policy. Major reasons for less than maximum production are poor stocking, slow growth, and inferior species, all of which can be largely alleviated by applying available scientific technology and making adequate investments. Stocking (number of trees per acre) can be increased by site treatments that promote natural regeneration and (where necessary) by planting. Growth rate can be increased by thinning to give the favored trees more "elbow room," introducing genetically superior species and varieties, and sometimes fertilizing. Species composition can be improved by cultural methods that favor "desirable" trees over less desirable ones and, again, by introducing (seeding or planting) superior species or strains.

Although most forest land could benefit silviculturally from one or more of these treatments, it makes more economic sense to concentrate such efforts on the most productive land. Studies have shown that there are about 168 million acres of commercial timberland that would yield at least a 4-percent return (net after inflation) from investment in intensive management. If just this much land were subjected to the best knowledge and techniques, net annual growth could be increased by about 12.7 billion cubic feet. About 74 percent of these acres are held by nonindustrial private landowners, 20 percent by industry, and 6 percent by the public--State and Federal.

Another good way to help meet the demand for more wood is to use more of the tree where it is efficient or cost effective to do so. Traditionally, only the large, straight portion of the main bole has been used. The rest of the felled tree--top, limbs, bark, and foliage--is left to rot or burn. This wasted material represents a tremendous resource awaiting only the appropriate economic and technological developments to render it marketable for pulp, fuel and possibly, petrochemical substitutes. Some progress has been made in this area in recent years, but much more research is needed. The key question is how to efficiently and economically get this material from the woods to the mill and to a profitable use or market.

In addition to using more of a tree, a better job can be done of using the material removed from the woods. Improved tools and techniques, and more skill in using them, can extend the wood supply by extracting more finished products from a given volume of raw material. Recent developments in logging and sawmilling machinery and methods have already led to significant reduction of waste in these operations. Similar progress is being made in the manufacture of secondary products.

In a similar vein, utilization of material that was once wasted in the manufacturing process has also made great advances in recent years. Many residues formerly discarded or burned (slabs, edgings, shavings, trimmings, veneer cores) are now cycled into productive uses. So far, most of this wood goes for pulp or fuel, but research and response to market forces promise to expand the options. In 1970, half a billion cubic feet of such material was still left unused at primary manufacturing plants. Much of it, however, was in small volumes or at remote locations and hence not yet economically available for commercial use--another challenge for research.

In addition to manufacturing residues, large amounts of urban waste can be salvaged and recycled for productive purposes. Paper, solid wood trash, dead or dying trees can all be utilized. Progress is being made, but so far no more than one-fourth of such material is used. Increased use would further reduce the demand for "new" wood.

Improved engineering and construction practices could reduce the amount of wood needed in houses and other structures. Such practices could save, for example, an estimated 10 to 20 percent of the dimension lumber used in the typical framehouse. Also, better use of preservatives and water repellents could extend the life of wood structures, thereby reducing the need for replacements.

The South, acknowledged to be the major timber growing region of the future, is where the greatest opportunity for increasing the timber supply lies. However, the success of these efforts will depend on the action of the private

owners who hold most of this land. More effective ways are needed to encourage landowners to invest more to grow timber.

Much can be done now to extend timber supplies by better use of existing technology. But, progressing from extensive to intensive management, there is need for a continuing flow of new information to guide along the way. More research is still needed on all phases of growing, protecting, and using forests for timber. At the same time, there is also a need to learn how to make timber production more compatible with the environment and other forest uses.

WATER

The world's water supply is fairly stable: not much is lost or gained in terms of total volume. But the supply is constantly being recycled from earth to atmosphere and back again, and the vagaries of this recycling process sometimes create problems. 29/

Supply

Nationally, the United States has an ample supply of fresh water. Locally and seasonally, however, there are imbalances--either too much water or not enough. Generally, the excesses occur in the East, and the shortages in the West, but there are exceptions. Sometimes the way water is used can cause supply problems, as described later.

Rainfall throughout the country averages an adequate 30 inches per year but ranges from a scant 4 inches in parts of the desert and mountain regions in the West to a drenching 200 inches along the northern Pacific Coast. What happens to this water when it reaches the earth depends greatly on the kind and condition of the forest and rangeland upon which much of it falls.

Because the area of forest and rangeland is so extensive, and because the headwaters of most streams are on forest land, most of the water available for human use can be considered an integral part of the forest and range resource. This land--the soil and the vegetation on it--captures the water that falls, stores it, filters it, and gradually releases it to ground or surface flowage. Thus, the management of forest and rangeland greatly influences the operation of this gigantic "waterworks."

In general, about two-thirds of the precipitation evaporates or is transpired through plants back into the atmosphere. The remaining third seeps into the soil to replenish the groundwater or flows through watercourses as it returns to the oceans; most of this is available for human use.

Demand

Water is used in three general ways: (1) nonconsumptive withdrawal, where water is removed from its natural course, used, and returned to a stream or underground source and is available for reuse (e.g. industrial cooling); (2) consumptive withdrawal, where water is withdrawn from its source and is "consumed" by evaporation or transpiration (e.g. irrigation); and (3) instream use, where water is "used" within its natural course (e.g. fishing, navigation, and power generation). Sometimes these uses overlap; for example, water used for cooling can also be fished in and boated on.

29/ USDA Forest Service. An assessment of the forest and range land situation in the United States. p. 430--506. 636 p. Jan. 1980.

In 1975, nearly 340 billion gallons of water per day were withdrawn from various sources for use. Nearly half of this was used for irrigation (mostly in the West), a fourth for steam electric cooling, 15 percent for manufacturing, and the rest for mining and other purposes. Total withdrawals are expected to decline to just over 300 billion gallons per day by the year 2000, largely because of decreasing nonconsumptive use--for example, more recycling of water in manufacturing. On the other hand, consumptive uses are predicted to increase more than one-fourth during the same period. Irrigation, the greatest "consumer" of water, will increase 7 percent by 2000. Consumptive use in manufacturing will double and will be felt chiefly in the highly industrialized sections of the North and South. And, because of changes in power generation technology, water used for cooling will increase eightfold.

Special Problems

Locally serious water shortages are common throughout the entire country. In the East, two areas with the greatest potential for water supply problems are the southern half of Florida, and a band bordering the southwestern shore of Lake Michigan. But the greatest potential for shortages is in the West; nearly all of the western half of the country, except for the extreme northern regions, is subject to severe water problems now, and will be in the future. It is no coincidence that this is the area where irrigation is most prevalent.

Despite the fact that irrigation is the predominant use of water throughout most of the West, it is the lowest valued consumptive use. So, when shortages come, agricultural supplies will decline first and most as the available water supplies are shifted to higher valued uses. This could lead to reduced production from irrigated farmland. In the most severely impacted areas, streamflow would be reduced, lowering hydroelectric output, jeopardizing aquatic habitat and water-based recreation, and interrupting navigation.

No less a problem than too little water is too much in one place at one time. Flooding damaged about $3 1/2 billion worth of property in 1975 in this country and killed 113 people. Most of the property damage was farm-related: crops and livestock destroyed and soil buried or washed away. In addition to the direct loss of lives and property, the disruption of the economy during and after a flood causes untold indirect losses. Most flood damage occurs along the flood plains of rivers--notably the Ohio, Missouri, and Mississippi in the Midwest, and the major rivers in the Southwest.

Quality of water is as universal a problem as quantity. Pollutants reach our water supplies in two ways. Some are discharged into a river or lake at a single point from a specific, known source. Called "point source" pollution, a good example is a manufacturing plant dumping waste material into a river. Other pollutants originate from a large area, their flow depends on rainfall or snowmelt and hence is not constant, and they enter the watercourses at many diverse locations. This "nonpoint source" pollution is the kind that stems from activities on forest and rangeland, as well as farmland, and so is of much concern. Examples are mining, grazing, logging, and road construction.

Solving the Water Problems

The world's total water supply cannot be increased but shortages can be avoided or overcome through more efficient use and more strategic distribution. Water conservation does not happen automatically, however; there usually must be some incentive. Two kinds of incentive are commonly available: economic and regulatory. Applying a more realistic pricing system is probably the better of the two. When prices get high enough to make water conservation pay, it will be practiced. The more direct approach of course is to make it illegal to waste water. But this approach is less effective and more expensive.

Evidence supports the logic that pricing greatly influences water use. In Boulder, Colorado, for example, the introduction of metering reduced water use by more than one-third. The National Water Commission concluded that charging users the full cost of water services would conserve water supplies by encouraging more efficient use of scarce resources and discouraging premature investment in new water development projects. It would also reduce the financial burden on nonusers.

Given the incentive--whether financial or legal--land managers and water users can conserve water in a variety of ways. Perhaps the greatest opportunity for conservation is where water use is greatest: irrigation. Here large amounts of water are wasted during transmission, before it reaches its intended destination, either by seeping into the ground or evaporating. Such losses could be minimized by activities such as lining channels with nonporous materials, converting from surface flooding to trickle irrigation, using underground storage in wet years, and controlling water-absorbing plants that commonly grow adjacent to channels.

Other kinds of water use lend themselves to conservation measures, too. Examples include improving domestic water systems, recycling water used in manufacturing, and controlling pollution.

In many areas, local supplies of water can be increased. This may be done in a variety of ways: transferring water long distances via pipeline or aqueduct, desalting sea water, cloud seeding, and as we shall see, vegetation management.

Forest and rangeland occupies a third of the Nation's land area, and forest land in particular receives more precipitation per acre than most other kinds of land. So, it follows that good forest and range management is important to good water management. The treatment and manipulation of the vegetative cover on a given area can either increase or decrease the yield and quality of water that flows from it. Appropriate cultural practices can increase the natural recharge of groundwater by slowing the rate of overland flow and increasing the infiltration rate. Such practices tend to maintain a more uniform flow of water from the headwaters of streams, providing a more dependable water supply for downstream users as well as reducing the potential for flooding.

Careful planning and implementation of the various activities associated with land management can also minimize the amount of pollutants that enter lakes and streams. Such diverse activities as logging, road construction, cutting and burning of vegetation, use of pesticides and fertilizers, recreation, grazing, and off-road vehicle use all are potential producers of some

kind of pollution. When, where, and how they are done greatly influence the quality of water that flows from forest and rangeland.

Much of this land is privately owned and in small holdings. Few of these owners have the necessary capital or technical expertise to plan or apply needed conservation measures. And, because the benefits of such practices do not accrue specifically to the landowner but to society as a whole, public financial and technical assistance may be necessary.

Research has already produced much useful information about the management of land and water resources. Further work is needed, however, especially on techniques such as reducing consumptive use, managing forest and rangeland to control pollution, reclamation of disturbed land, and identifying sources of, and controlling, "acid rain."

RESOURCE INTERACTIONS

If each of these resources were confined to its own neat little area, exclusive of all the others, managing all of them would be simple. But such is not the case. Mostly, they are mixed together. 30/ Land that grows trees for timber or forage for livestock, also provides habitat for wildlife, stores and filters water, and serves as the base and backdrop for many kinds of recreation. It may also be underlain with precious minerals. Any one resource cannot be managed with blinders on because what is done to or for it will inevitably affect some or all of the others. What will harvesting timber on a certain mountainside do, for example, to the wildlife that lives on it? Will it improve the habitat or ruin it? For what species? Will the water level in associated streams be raised? Is that good or bad?

Sometimes specific management practices may be complementary for two or more resources. Indeed, cutting timber often does provide more food and cover for certain wildlife species. But other resource actions are conflicting or competitive: building a new logging road may reduce the water quality in an adjacent stream. And, to further complicate the situation, a single action may have both good and bad side effects: the increased wildlife cover left after timber harvesting may represent a serious fire hazard. Analyzing such interactions is tremendously complex, and is, in fact, the very basis for modern multiresource management. Fortunately, systems research in recent years has made it possible to begin building mathematical models that are already supplying answers to some of these questions. As time goes on, these models will be further refined and used to facilitate decisionmaking in renewable resource management.

Meanwhile, progress so far has led to these conclusions: with the advent of the modern computer, it is now possible to assemble and assimilate data necessary to evaluate resource interactions; and more research is needed on the ecological and economic modeling of these interactions.

30/ USDA Forest Service. An assessment of the forest and range land situation in the United States. p. 508--516. 636 p. Jan. 1980.

TO SUM UP

This Assessment states that if recent trends in production and use of renewable resources continue, prices of most resource outputs will rise, some in near term and some in the long term. So, demand will be reduced and supplies increased until a balance is reached. With proper management of the Nation's forest and rangeland, the prospects are good for increasing supplies. Potential ways to increase supplies are:

- Encouraging and supporting more production on private land, especially on small holdings in the East with cost-effective programs.
- Reducing waste and increasing efficiency in utilization where it is economical.
- Increasing the total growth of timber and forage.

These steps will not only increase production of renewable resources--timber, forage, water--but also indirectly benefit the important amenity values of forest and rangeland--recreation, wilderness, wildlife.

PART III:
Program Development

THE THREE STEPS

The Recommended Program was developed in three steps. First, a series of alternative programs was proposed, representing a wide range of resource emphases, possible investments, potential yields, and impacts on the environment. 31/ Second, the alternatives were offered to the public for consideration and comment. 32/ And third, after assimilating this information along with analysis of cost effectiveness, irrevocable commitments, policy considerations relating to local and regional stability and national priorities, the Recommended Program was developed. 33/ Throughout the entire process, the assessment information and analysis served as both benchmark and general guide.

Developing the Alternatives

The purpose in the first step was to set forth an array of alternative programs that would bracket the range of feasible resource management roles. Obviously, every option could not be included. The myriad possibilities were reduced to a manageable number. To help do this, as described earlier, the "products" of forest and rangeland were separated into two categories: "market resources" and "nonmarket resources." For each of these two categories, three general levels of output production were considered--a replay of the 1975 RPA Program regarded as "moderate," one lower than that, and one higher. By applying various combinations of the three output levels to the two resource categories, and by considering different roles for the National Forests as opposed to State and private land, five alternatives were settled on. These alternatives, and the High and Low Bound of the Recommended Program for comparison are:

	Level of Activity for --					
	National Forest System		State & Private Forestry		Research	Human and Community
Alternative	Market	Nonmarket	Market	Nonmarket		Development
1	Higher	Higher	Higher	Higher	Higher	Lower
2	Lower	Lower	Lower	Lower	Lower	Moderate
3	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate
4	Lower	Higher	Higher	Higher	Higher	Higher
5	Moderate	Lower	Lower	Lower	Moderate	Moderate
Low Bound	Moderate	Lower	Higher	Lower	Moderate	Lower
High Bound	Higher	Moderate	Higher	Higher	Higher	Moderate

Each of these proposed programs was described in detail, including estimated costs, benefits, personnel requirements, and yields. Treated separately in each program were the eight resources discussed in the Assessment (including minerals and human and community development) plus four other support elements--protection, lands, soils, and facilities--that affect the management of all the resources. Implementation of any of these programs (or any other program) would, of course, affect the human environment in various ways. A comprehensive analysis of such effects is required by law--the National Environmental Policy Act--for all major land management decisions. In the environmental analysis of each alternative program, physical-biological, economic, and social effects were considered separately. For physical-biological effects, estimates from two different points during the 50-year planning period--1985 and 1995--were used to determine a trend for the entire period. Economic

31/ USDA Forest Service. A recommended renewable resources program. Ch. 3.
32/ _____. Appendix B.
33/ _____. Chapter 5.

effects were similarly estimated at selected points in time (the present net worth). For the National Forest System, the present net worth was calculated for the entire series of outputs and costs for the 50-year planning period. Physical-biological impacts of each program were analyzed in terms of their effects on water quality, air quality, visual quality, wildlife and fish, cultural resources, and vegetation.

The economic effect for the National Forest System was determined by computing the "present net worth": the total expected benefits minus the total estimated cost, discounted to the present at 7 1/8 percent. 34/ Economic effects of State and Private Forestry activities were evaluated by comparing long-range trends in timber production, consumption, and prices. Research's impact on the economy was considered in light of past history. Social effects were evaluated in terms of several "quality-of-life" factors, of which community economy is the key because most of the other social effects are influenced by it. Counties, including their communities, were categorized for social effect evaluation on the basis of estimated impacts of Forest Service activities. Special emphasis was given to those most affected. This analysis and related data are improved over the 1975 RPA and further progress will be made in the 1985 RPA planning cycle.

Because of its decentralized organization, the Forest Service was able to build these alternatives up--on a foundation of basic information submitted from the field--instead of from the top down. Local resource experts in each of the Forest Service's National Forest Regions, State and Private Forestry Areas, and Forest Experiment Stations participated in setting resource goals and evaluating their environmental effects based on Washington Office guidelines. These "mini-programs" were then gathered together by an RPA Core Team and melded into the cohesive national level units just described. The complexity of this approach is justified by its results: the resulting alternatives were feasible options. 35/

When all this was done, the five alternative programs were ready for review. They were not presented as the only choices, but as examples of the kinds of programs that could serve the needs and desires of the people. The final Recommended Program could have been any one of the alternatives, a variation of any one, a combination of two or more, or something entirely new. However, because of the many variables involved in planning and the associated uncertainty about them, the final Recommended Program is described in terms of a range of goals and outputs. Major policy issues were identified whose resolution through the RPA process strongly influenced determination of the RPA Recommended Program.

Involving the Public

Since individual citizens as well as special interest groups often view the management and use of natural resources differently, it was important to involve the public throughout the RPA planning process. Public involvement goals were designed to: (1) improve public understanding of the scope and impact of the RPA Program at local, regional, and national levels; (2) identify what the interested public believed the Nation's forest and rangelands should provide, including appropriate Forest Service programs; (3) identify

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34/ USDA Forest Service. A recommended renewable resource program. Appendix C.

35/ _____. Chapter 2.

for public consideration the issues and areas of existing and potential conflict; (4) improve the quality and accuracy of the RPA Assessment and Program; and (5) build public support for the RPA process and the resulting program.

In the spring of 1977, the public had opportunity to comment on a Draft Assessment and Element Outline and Proposed Alternative Forest Service Program Directions and National Goals. In early 1978, The Resources Planning Act--Progress Report, plus a modification of the outline resulting from the earlier review, was distributed for information and comment.

In March 1979, with the release of three review draft documents--An Assessment of the Forest and Range Land Situation in the United States; Alternative Program Directions, 1981-2030; and A Report to Congress on the Nation's Renewable Resources--the most extensive part of the public participation effort began. The public was invited to comment on the prospective supply-and-demand situation; a desirable direction for a Forest Service program, policy issues, and criteria to use in determining program directions. The Forest Service received approximately 1,700 documents from across the country containing more than 50,000 comments on the draft reports. Seventy percent of the responses were from individuals. Other comments were received from organized groups, elected officials, and other Federal, State, and local agencies.

An analytic process was developed to systematically organize and summarize these comments for use by decisionmakers. At this stage, no attempt was made to judge the relative value or importance of the comments.

Because RPA public comments often relate to policy and highly technical issues, the focus of the analysis was on argumentation, evidence, and the identification of areas of agreement and disagreement among respondents. A National Summary Report on RPA Public Response and individual regional reports were distributed to respondents in late summer 1979.

The final step was to evaluate the information for use as criteria in determining the Recommended Program. Inevitably, this was a judgmental process: a tremendously complex range of factors had to be considered. It is felt that the resulting Recommended Program adequately reflects the Forest Service evaluation of public comment, tempered by other important considerations, such as the current economic situation which evolved after the public commented on the draft statements.

Developing the Recommended Program

Armed with the Assessment findings and the evaluation of public response, and guided by Departmental policy, Forest Service planners went back to the drawing board to put together a Recommended Program. The final plan, although shaped and polished by many different hands, is a product of the U.S. Department of Agriculture; that is the requirement of the Resources Planning Act.

THE ALTERNATIVE PROGRAMS

Beginning the process of developing a national program for renewable resources by presenting several alternatives serves two purposes. First, it requires a spectrum of realistic program options to be identified. Then, it enables the planners to formulate a series of options within that spectrum and describe them in such detail that they can be evaluated and compared in

terms of costs, returns, benefits, and effects. (For comparative costs, please refer to figures 3--10 on the following pages 49--52.)

Each alternative is workable and consistent with Forest Service authorities and responsibilities. And each one meets at least minimum requirements of existing laws and regulations, including environmental quality standards. Further, all the alternatives call for managing the National Forests under multiple-use and sustained-yield principles. These estimates assume an approximate constant level of quality of experience and service per visitor day of recreation and wilderness use, and are not intended to predict visitor use response to specific investment levels. Forest practice standards are similarly held approximately constant between investment levels. The original five alternatives are briefly described here. 36/

Alternative 1 (high level) is the most ambitious: it seeks to develop all renewable resources to a high level of productivity. The goal is to keep product prices low and environmental quality high. Thus, the Forest Service would manage the National Forests to produce a large amount of both market and nonmarket resources, while taking special care to maintain and protect the land for future generations. Assistance to States and private owners would increase greatly to encourage a high level of production from their land as well. And research in all areas would be intensified to facilitate this production. Human resource programs could be reduced, however, because the increased economic activity would minimize the need for them. The big deterrent to this program would be the cost--$3.2 billion per year by 1995--the highest of any of the alternatives; the biggest selling point, the fact that renewable resources would be intensively developed and used to their optimum. Present net worth would be $45.8 billion dollars.

In contrast, Alternative 2 (low level) provides for the minimum activity necessary to meet Forest Service responsibilities. It focuses on the caretaker role of Forest Service land managers and limits the development of both market and nonmarket resources on all National Forest System land. It somewhat limits cooperative forestry assistance programs of the Forest Service on State and private lands. Research would be limited correspondingly. The primary concern would be resource protection rather than production. Human resource programs, on the other hand, would increase moderately to help with the custodial responsibilities on the National Forests. The main advantage of this alternative is that at $1.4 billion per year by 1995, it would cost less than any of the other four. But it would also reap the least benefits. Present net worth would be $44.9 billion.

Alternative 3 (moderate level) calls for a moderate approach to the management of all resources. Similar to the 1975 RPA Recommended Program, it emphasizes dispersed recreation and cost-effective timber and range management. Greater effort would be exerted toward development of wildlife and fish, land and water, and human and community resources. National Forests would be managed to produce a moderate amount of market and nonmarket resources, and a moderate amount of assistance would be given to State and private landowners for market and nonmarket production. Research effort would follow suit, focusing on ways to moderately intensify resource management on public and private forest and rangelands while minimizing adverse environmental impacts. Human resource programs would remain at current moderate levels with some increases in programs related to natural resource management and development. Total

36/ USDA Forest Service. A recommended renewable resources program. Chapter 3.

Figure 3

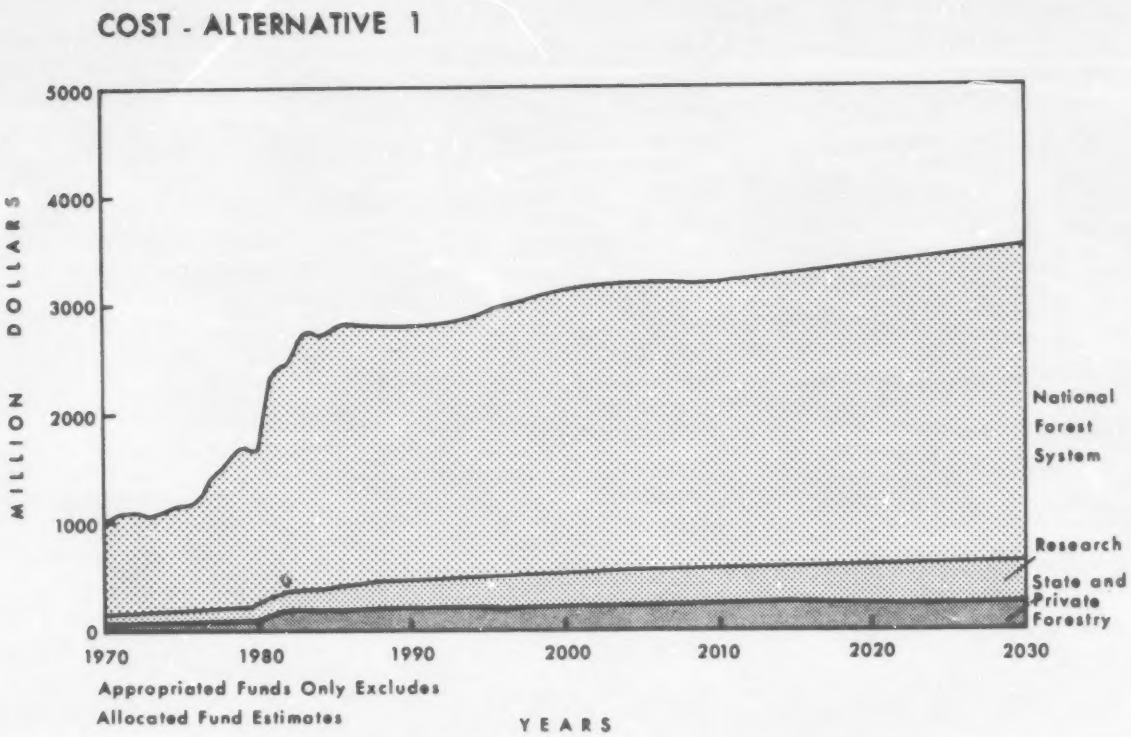


Figure 4

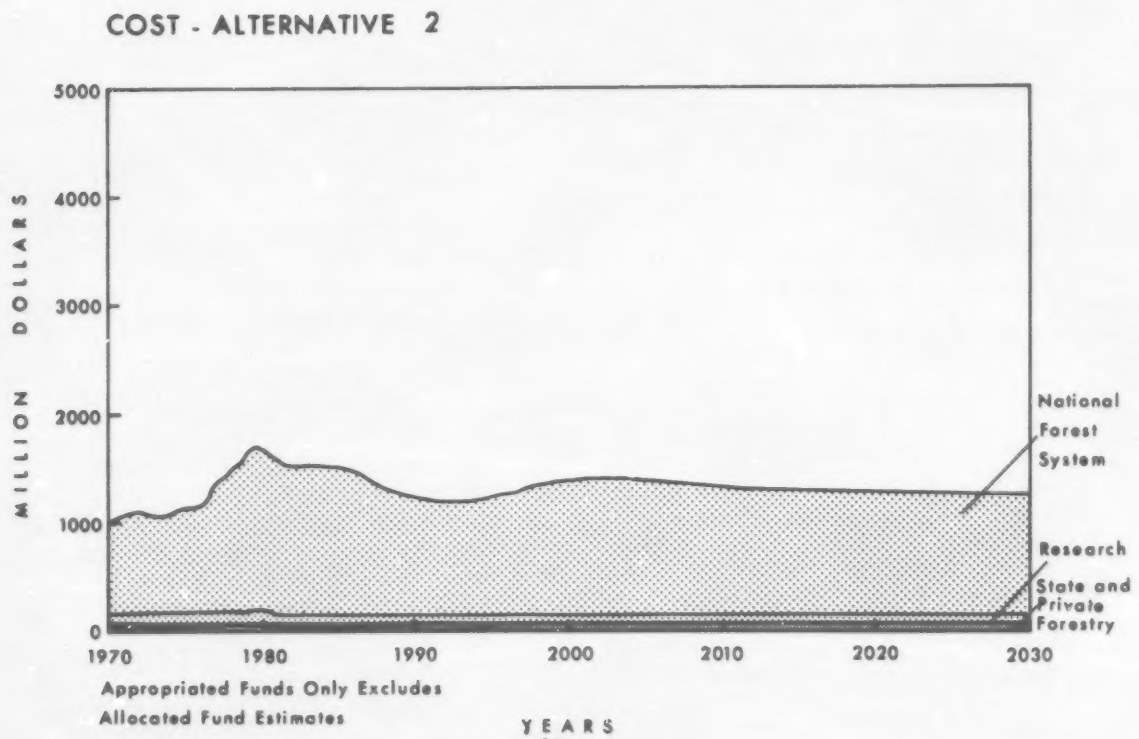


Figure 5

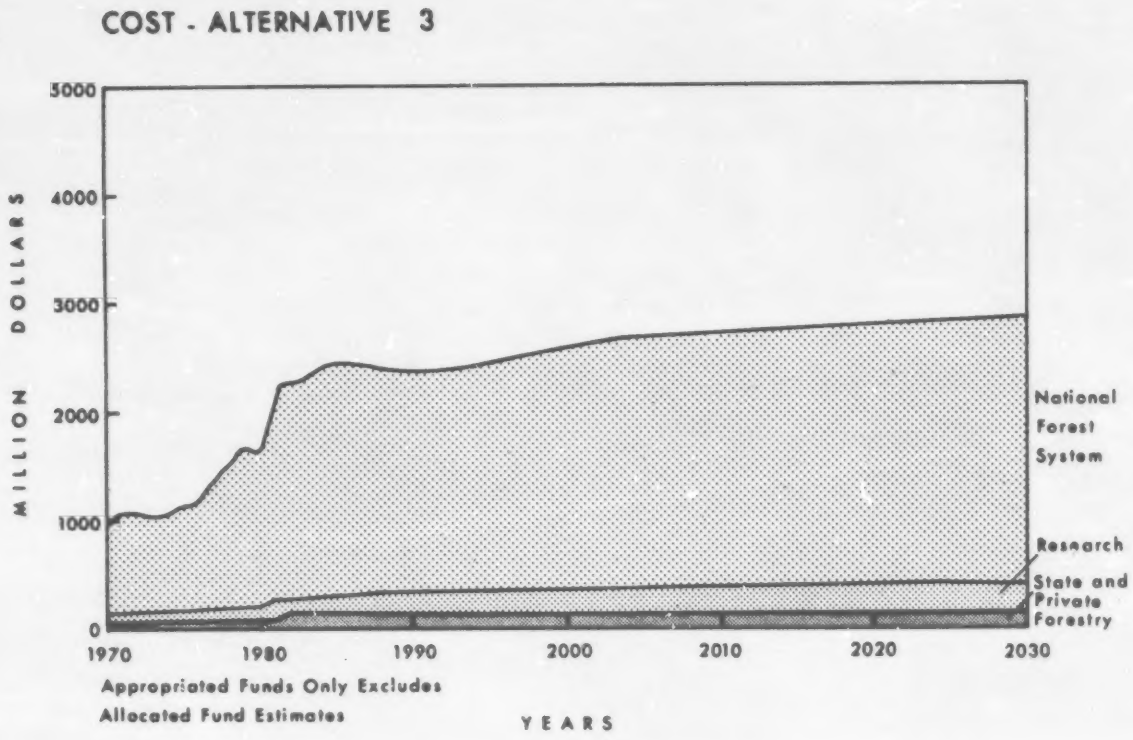


Figure 6

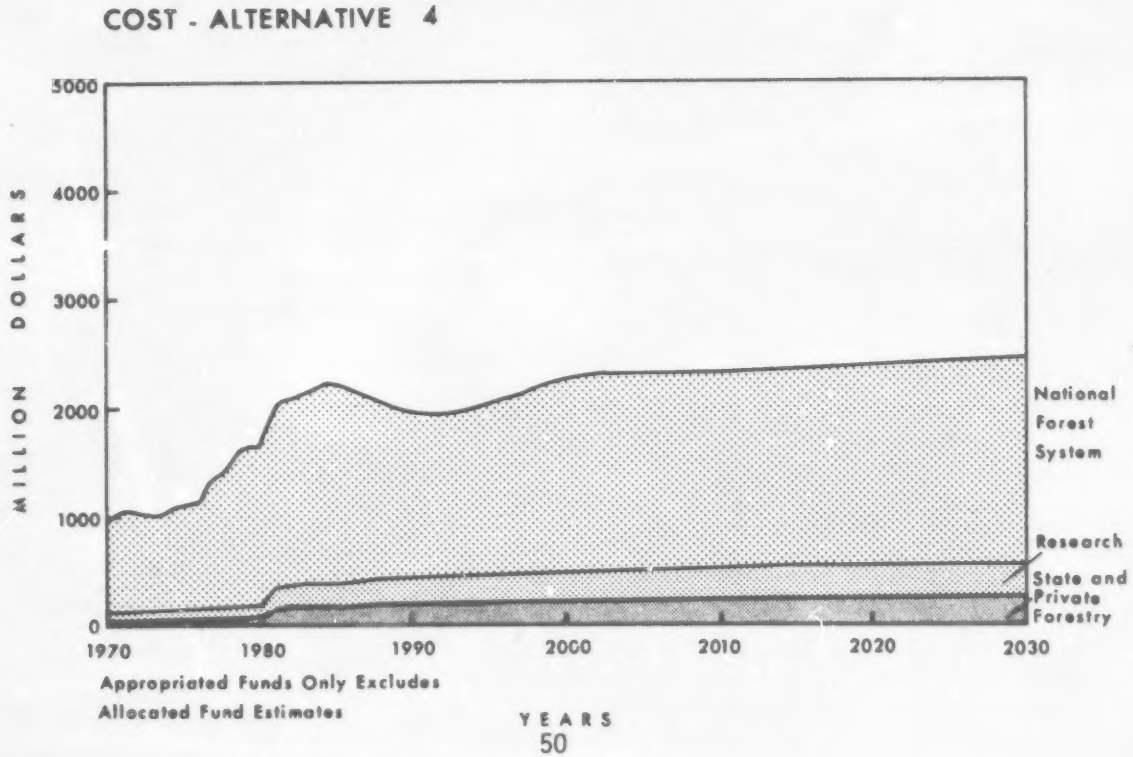


Figure 7

COST - ALTERNATIVE 5

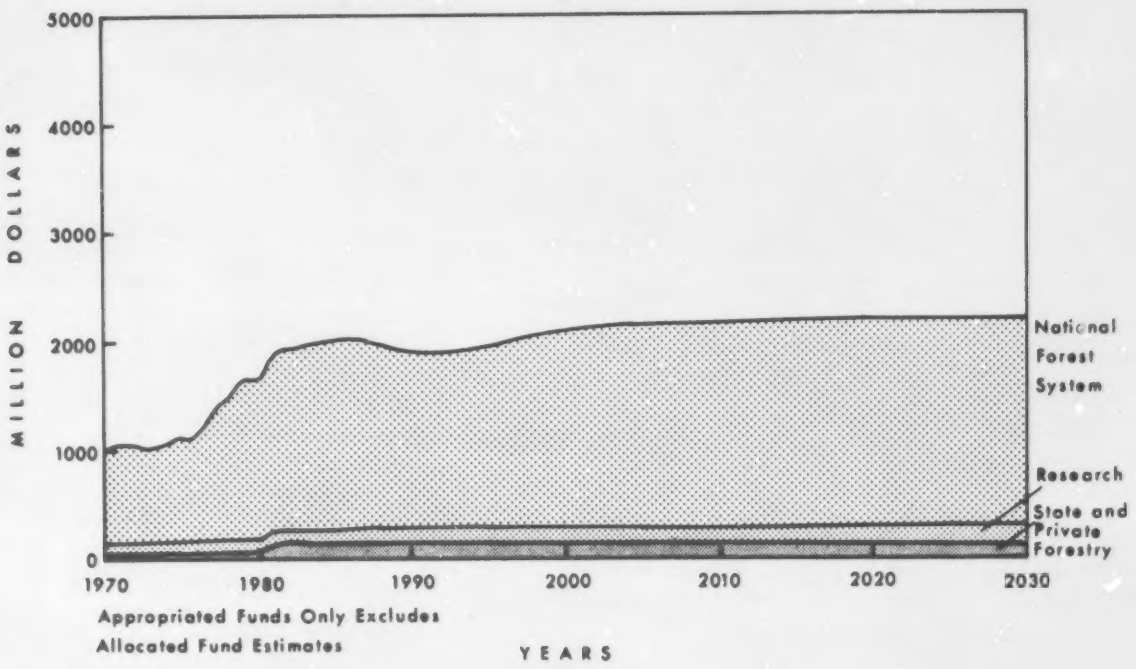


Figure 8

COST - ADDITIONAL ALTERNATIVE

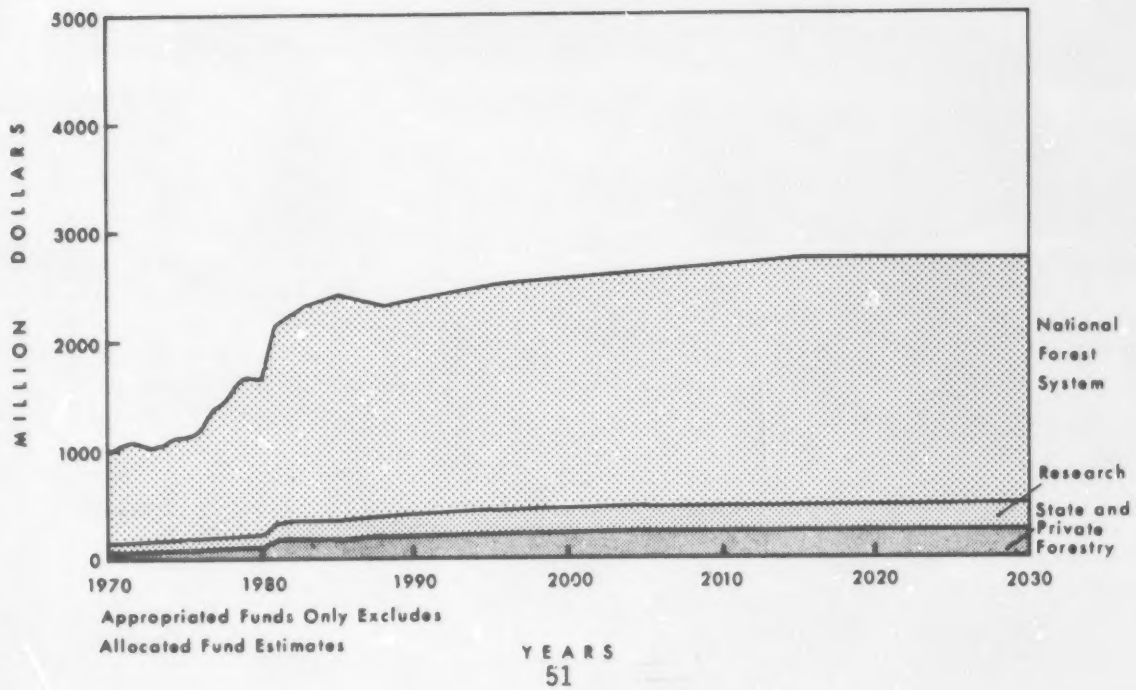


Figure 9

COSTS - RECOMMENDED PROGRAM - HIGH BOUND

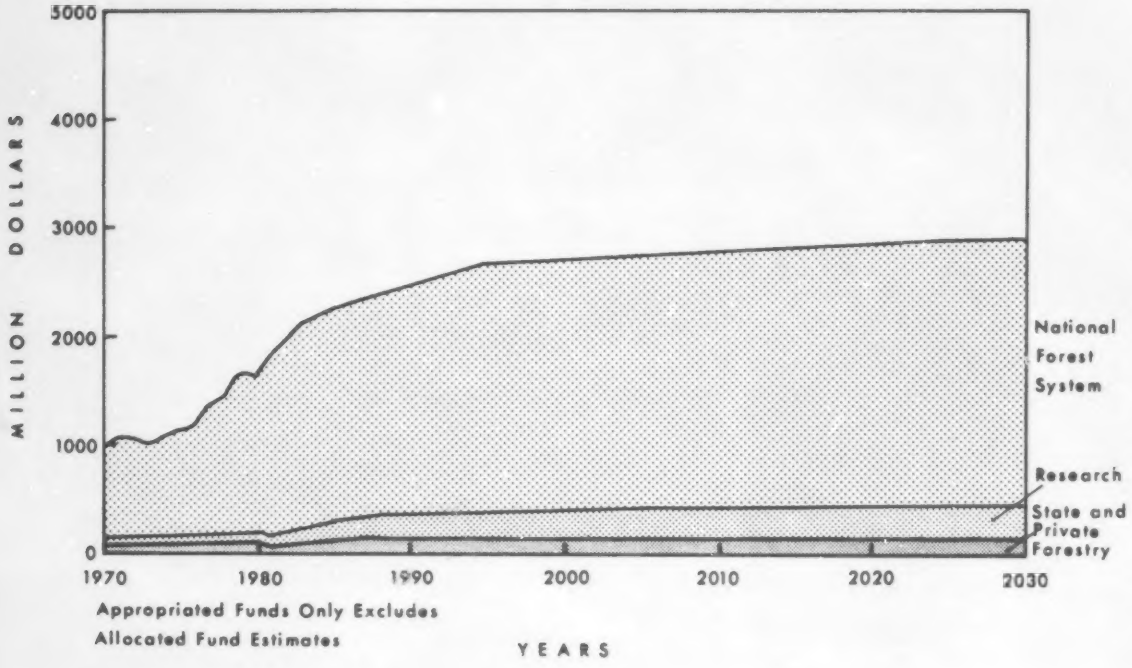
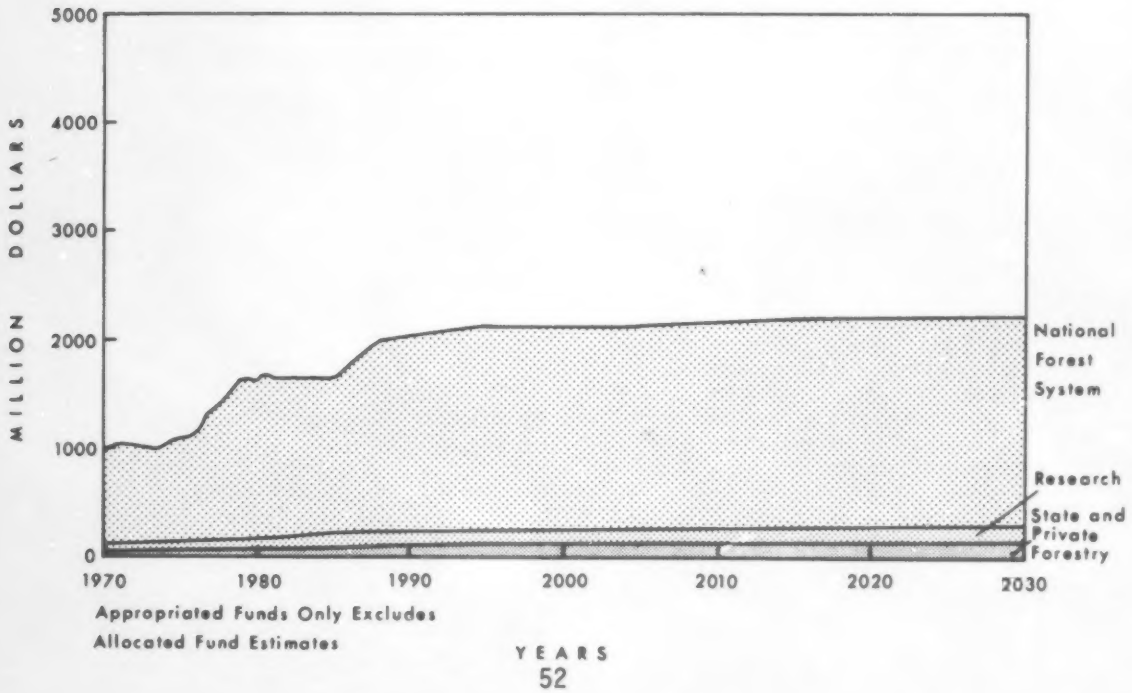


Figure 10

COSTS - RECOMMENDED PROGRAM - LOW BOUND



cost of this program would be $2.7 billion per year by 1995, second highest among the five. Present net worth would be $44.9 billion.

Alternative 4 (nonmarket emphasis) differs from the previous three in that it does not treat all resources in the same way. Reflecting a philosophy that National Forest System land should be managed primarily for recreation and other nonmarket uses, this alternative shifts more responsibility for producing market resources to the private landowner. Production of timber, forage, and minerals on National Forests would be greatly reduced in favor of much greater emphasis on the nonmarket or amenity values of this land. Management would focus on dispersed recreation, wilderness, wildlife and fish habitat, and environmental protection. In sharp contrast, sufficient assistance would be given to the States and to private forest owners to assure a high level of production of market and nonmarket resources on non-Federal land. Research would be increased and redirected to facilitate this change in the roles of Federal and private land while at the same time protecting the resources and minimizing conflicts. Human and community resource programs would grow to provide for the protection and restoration of the resources on the National Forests and to help develop the resources on State and private land. Total cost would be relatively low, $2.3 billion per year by 1995, but State and Private Forestry would receive more funding than under any other alternative. Present net worth would be second highest of the five alternatives, $46.2 billion.

Alternative 5 (current approach) is a continuation of the present Forest Service programs. It provides for moderate production of market resources and low production of nonmarket resources on the National Forests, and low production of all resources on State and private forest and rangeland. Research and human resource programs would continue at their current moderate pace. Cost of maintaining this present course would be modest, $2.2 billion per year by 1995, ranking well above the low-level program but below the moderate one. Present net worth would be highest at $46.5 billion. For a little closer look at these five alternatives, a brief comparison of their impact on selected Forest Service activities is presented here. A more complete comparison is presented in the associated document. 37/

National Forest System

Recreation

Recreational use--developed (campgrounds, swimming beaches, etc.) and dispersed (hunting, backpacking, etc.)--amounts to about 210 million visitor-days per year. In accordance with national policy, four of the five alternatives would provide for increased use, from about a 50 percent jump if the "current approach" (alternative 5) were followed to more than double if the "high level: (alternative 1) were adopted. Only the "low level" (alternative 2) program would reduce recreational opportunities. (See figure 11 on page 55).

Wilderness

Wilderness areas would be increased under all five alternatives, from a nominal increase involving only the most outstanding areas under the "low level" alternative to an addition of more than 25 million acres under the "nonmarket emphasis" alternative. (See figure 17 on page 58).

37/ USDA Forest Service. A recommended renewable resources program. Chapter 4.

Wildlife and Fish

Area of habitat improvements would be increased under four of the five alternatives--again reflecting stated policy: the "high level" alternative would show the greatest increase and the "current approach" the least. Area improved per year would drop one-half under the "low level" alternative. (See figure 12 on page 55).

Range

Range use as expressed in animal-unit-months of grazing per year would decrease under two of the alternatives--"nonmarket emphasis" as well as "low level." It would increase only slightly under the "current approach." Alternatives 1 ("high level") and 3 ("moderate level") would benefit this resource the most. (See figure 13 on page 56).

Timber

Development of the timber resource on National Forest land would be increased under three of the five alternatives: the "high," "moderate," and "current approach" levels. Timber production would be deemphasized under the other two alternatives--"low level" and "nonmarket emphasis"--the latter reflecting the shift in timber production away from Federal land. Both of these alternatives would reduce the volume sold on National Forests by about one-third from the fiscal year 1980 target of 12.2 billion board feet per year by 2030. (See figure 14 on page 56).

Water

Both quantity and quality of water flowing from the National Forests would increase slightly under the "high level" and "moderate level" alternatives due to improved watershed conditions. Quantity would decrease somewhat under the "low level" and "nonmarket emphasis" alternatives but quality would increase. The "current approach" alternative would maintain present water yields and quality. (See figure 15 on page 57).

Minerals

Mining activity on the National Forests, as indicated by number of permits processed, would increase under all five alternatives in adherence to the national policy previously stated. It would more than double for the "high level" alternative, increase only slightly for the "low level" and moderately for the "moderate level." The "nonmarket" and "current approach" alternatives would give special priority to energy-related minerals. (See figure 16 on page 57).

Human and Community Resources

Forest Service employment and training programs for the disadvantaged would be reduced under the "high level" alternative. It is expected that the increased economic activity created by the expanded National Forest programs would absorb much of the available work force, eliminating the need for Federal work programs. Just the opposite would occur under the "low level"

Figure 11

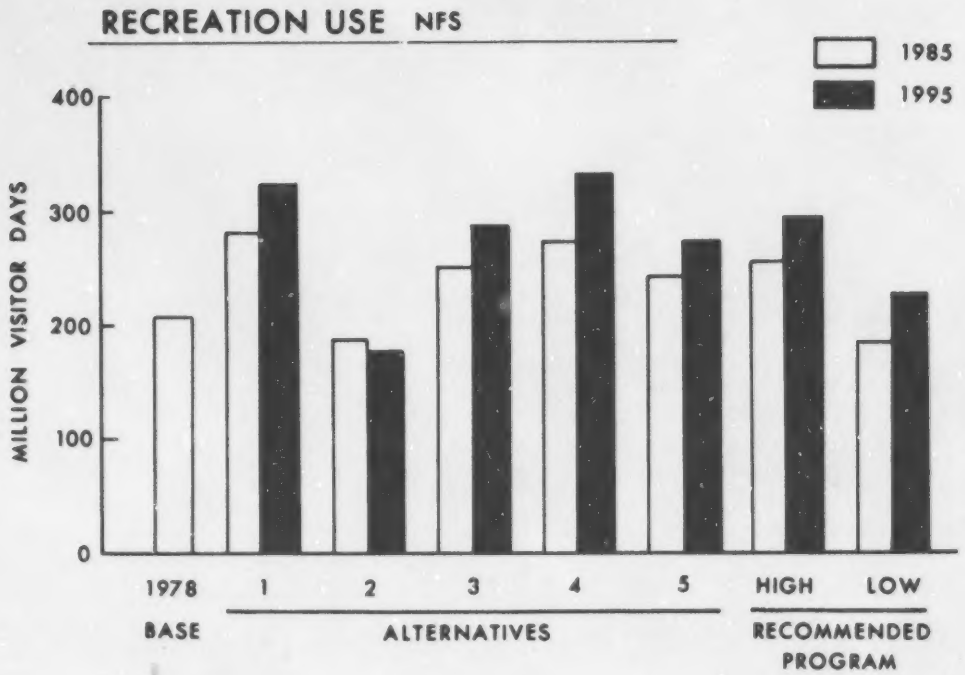


Figure 12

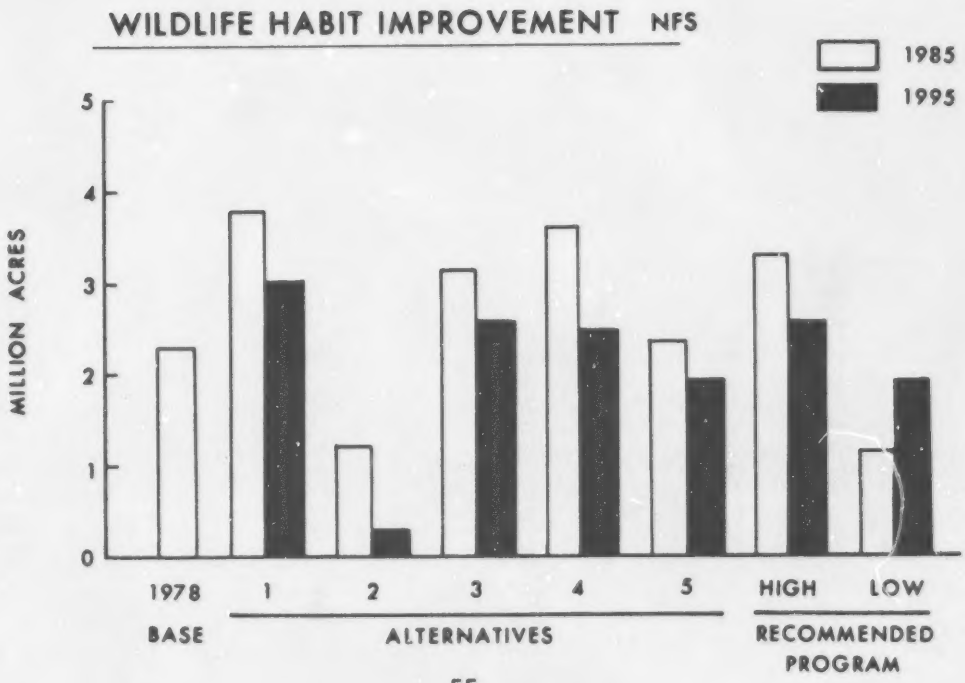


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Figure 13

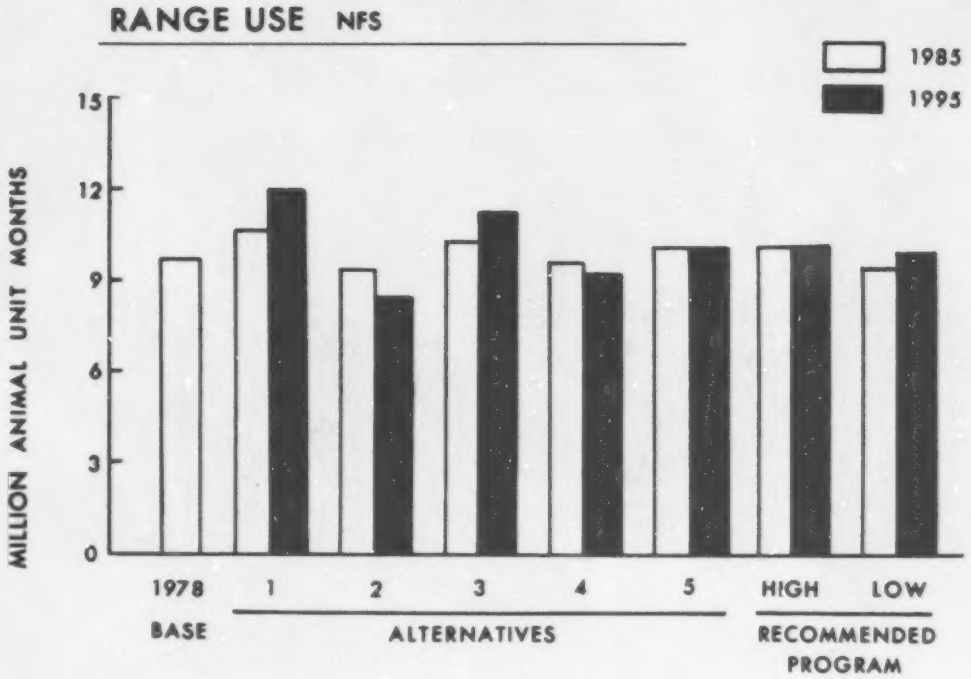


Figure 14

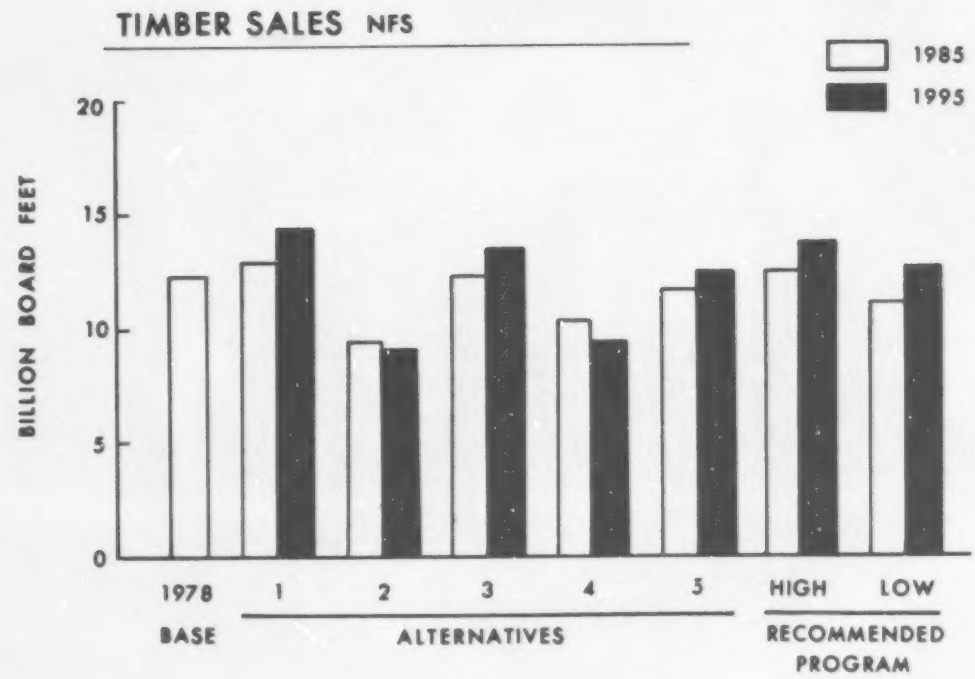


Figure 15

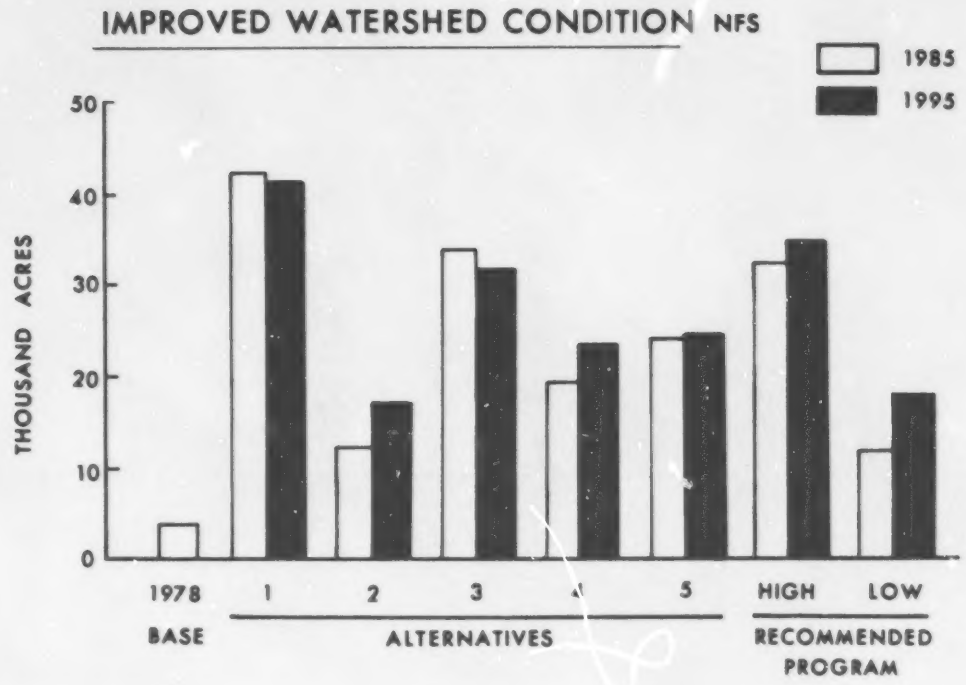


Figure 16

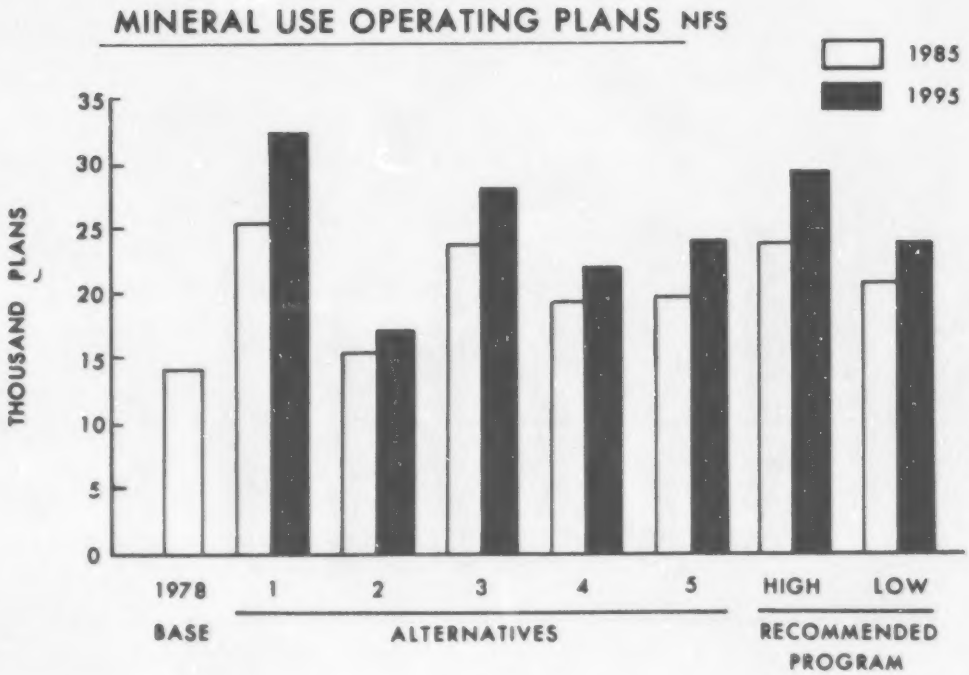


Figure 17

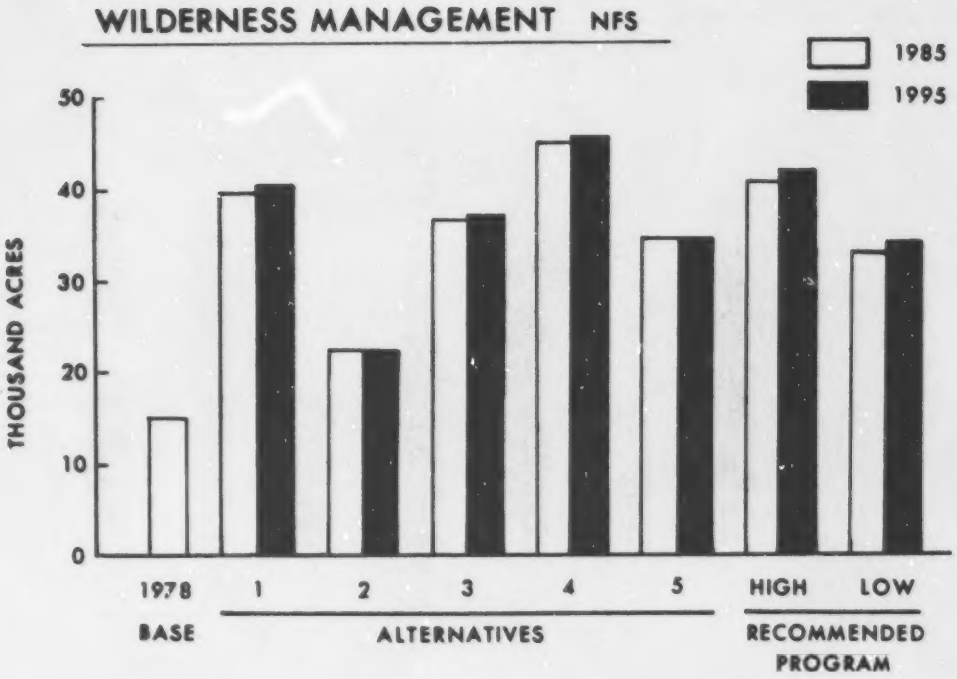


Figure 18

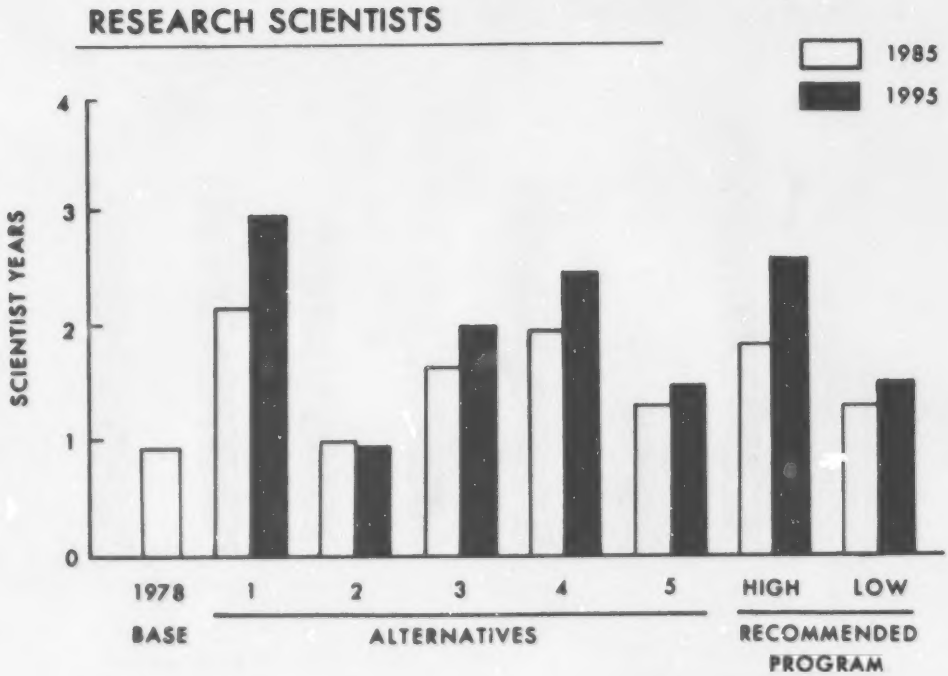


Figure 19

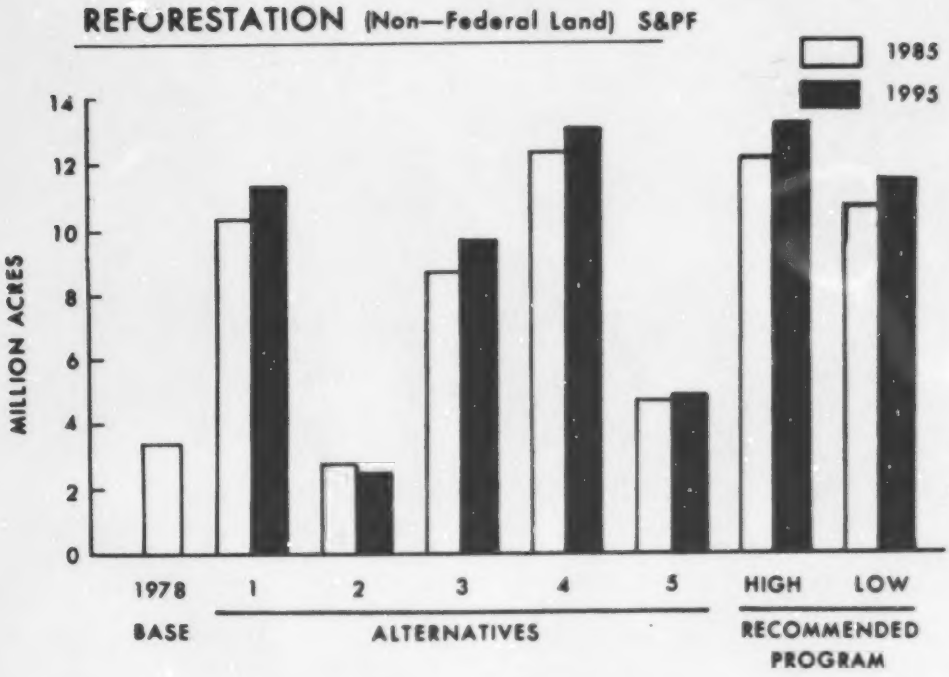
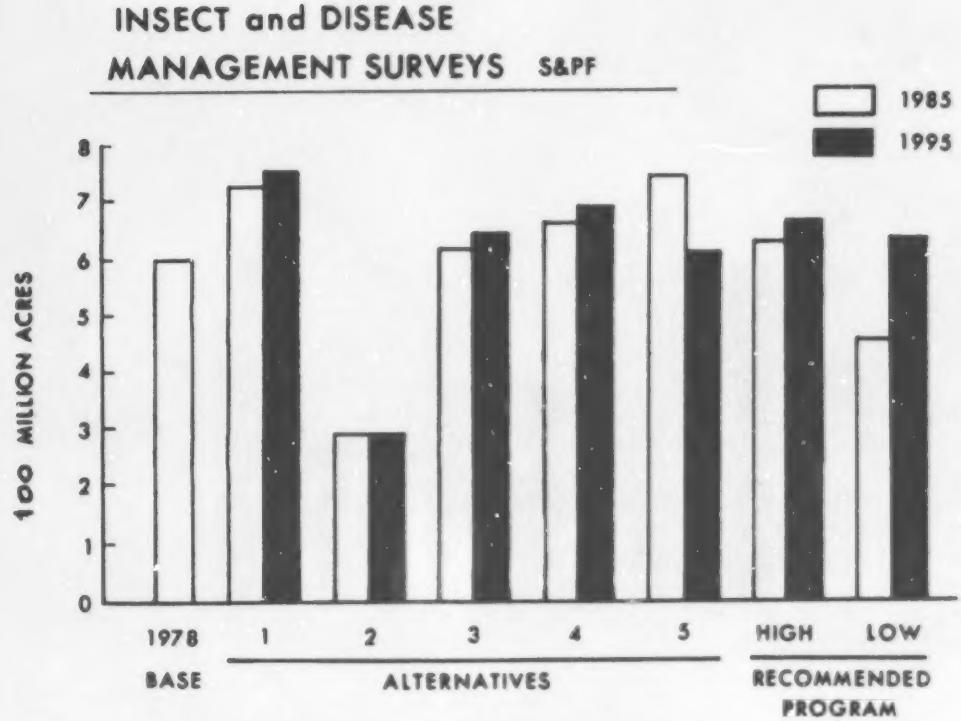


Figure 20



alternative: decreased activity on the National Forests would diminish employment locally. Special training and work programs would be needed to make up for this loss and to provide the forest maintenance and protection service required by this alternative. Such programs would increase slightly under the "moderate level" alternative and continue as at present if the "current approach" program were followed. The greatest increase would occur under the "nonmarket" alternative as special emphasis would be placed on environmental awareness and educational programs for the disadvantaged.

State and Private Forestry

Cooperative assistance to States, private landowners, and others would vary according to the specific direction of the individual alternatives. (See figures 19 and 20 on page 59.) As would be expected, assistance would be increased significantly for the development of all resources under the "high level" alternative 1. This supports the concept that full production from both Federal and non-Federal land would be needed to meet high demands in the future without sharp rises in prices of lumber and other consumer goods.

Under the "low level" alternative 2, cooperative assistance would approximate current levels. Assistance to timber producers would emphasize harvesting, selling, and processing rather than growth. Protecting and improving quantity, quality, and timing of water yields would be done on a limited basis and only in critical areas. Assistance for mined-land reclamation on non-Federal land would be minimal. No assistance would be provided for urban and community forestry.

The "moderate level" alternative 3 would increase cooperative assistance to promote resource development, putting special emphasis on multiresource management.

The program emphasizing production of nonmarket resources on the National Forests (alternative 4) would greatly increase cooperative assistance to States and private landowners. This would allow resource production on Federal land to be reduced.

The "current approach" alternative 5 would maintain cooperative assistance slightly above the present level. The Forest Service would maintain its management assistance to private landowners through the States, depending on rising prices to reduce demand to levels consistent with expected supplies.

Research

Forest Service research will cover a broad spectrum of subject areas under all alternatives, including efforts to learn more about:

Planning and managing forest recreational environments
Managing land for esthetics
Perpetuating ecological processes
Protecting endangered and threatened species
Improving rangeland management and utilization
Producing more and better timber

Improving wood utilization efficiency
Determining water resource requirements for recreation, wildlife and fish
Assessing nonpoint source pollution
Developing techniques for restoring mined land's usefulness
Developing urban forests and forestry
Growing and using wood for energy

But the specifics of the program would vary according to the intensity and direction of the resource management prescribed by the individual alternatives.

For example, under the "high level" alternative, research would be intensified and expanded to provide the additional knowledge necessary to evaluate wilderness opportunities and experiences, manage habitat for nongame species, and utilize low-grade hardwoods and logging residue. At the other extreme, the "low level" alternative would redirect research efforts to facilitate the accomplishment of ongoing activities previously described. (See figure 18 on page 58.) Research would focus on areas such as: integrating recreation with other uses; reducing vandalism and user conflicts; devising custodial and low investment management strategies for moderately intensive forestry on the best sites; developing revegetation techniques to minimize erosion; and meeting water quality requirements in mined areas.

Research efforts under the "moderate" and "current approach" alternatives would fall between the "high" and the "low." Most programs would follow their present trends, but there would be some adjustment of emphasis as occasion demanded. Areas of special concern would include: evaluating costs and benefits of recreational use of forest and rangeland; maintaining unique plant and animal species; evaluating scenic preservation efforts; developing genetically improved trees and new reforestation techniques to increase timber production; and promoting energy self-sufficiency in the wood-using industry.

Under the "nonmarket emphasis" alternative, research would increase to accommodate the special needs of the private landowner. Special emphasis would also be placed on developing innovative ways to get new knowledge to the private forest and range landowner. Some new directions and areas of increased concern would be: increasing user safety; refining methods to identify and preserve endangered and threatened species; maintaining comprehensive data on wildlife resources; providing guidelines for multiresource management on National Forests; publishing handbooks for the management of major forest types on private land; and enhancing the development, protection, and use of urban and community forests.

Effects on the Environment

The different kinds and intensities of activities prescribed by these alternatives would affect the natural environment of the National Forests in various ways. Some of the effects would be positive, some negative. However, each alternative provides for the environmental protection required by law. Procedures for mitigating negative impacts are part of program planning and execution. Nevertheless, in evaluating the alternatives, it was important to know what these environmental impacts would be.

Alternative 1 (high level).--This alternative calls for the greatest activity on the National Forests and so would have the greatest impact on the

environment. It would reduce visual quality, risk some cultural resources, and slow the improvement of water quality. But it would also provide for a strong effort to mitigate or minimize these effects. Wildlife habitat protection and management would increase the population of many species, although the intensified activity would increase the risk to some endangered and threatened species. Employment and economic development would be stimulated. Change would come most rapidly under this alternative, possibly disturbing local social structures, especially in areas adjacent to National Forests.

Alternative 2 (low level).--The custodial approach prescribed by this Alternative would preclude some environment-enhancing activities. As a result, fish and wildlife habitat for some species would be diminished, opportunities to improve water management would be delayed and production of timber and forage would decline. Local economies would be affected because of the slowdown in activity on the National Forests, which could in turn markedly affect the social structure in these areas.

Alternative 3 (moderate level).--This alternative would most noticeably affect the physical-biological aspects of the environment: wildlife and fish habitat, plant species diversity, and water quality would all be increased. Economic activity in areas dependent on National Forest production would increase moderately, with little effect on the prevailing social structures.

Alternative 4 (nonmarket emphasis).--The greatest impact on the environment under this alternative would be economic and social as communities adjacent to National Forests felt the sudden downturn in commodity activity. Water quality would increase, but air quality would merely hold its own in some areas and even decline slightly in others. Production and diversity of vegetation would be reduced also. Fish and wildlife habitat would benefit, however, as well as opportunities for leisure. The diversion of market resource production from the National Forests to other Federal, State, and private land would stimulate activity on these areas and so increase environmental risks there.

Alternative 5 (current approach).--This alternative would cause the least change and thus the least impact on the human environment. Wildlife and fish habitat would increase, but cultural resources, endangered and threatened species, and water quality would suffer somewhat. Communities adjacent to National Forests would tend to remain stable, both economically and socially.

A Modified Alternative

Many of the public comments received amounted to proposals for new alternatives. All such suggestions were carefully evaluated to determine whether they deviated enough from the original five to warrant separate consideration, and whether they could be realistically achieved. In response to these suggestions, a modified alternative was developed to show how parts of the original alternatives could be reorganized to create additional alternatives for evaluation. This modified alternative is presented here as an example.

The new alternative is essentially an adaptation of the "nonmarket emphasis" alternative (No. 4), differing from the original in two major ways: it provides for increases in timber and forage production on the National Forest

System rather than decreases, and at the same time it expands the area of wilderness even further. Proponents reason that funds which would have been spent to build roads and other facilities on land newly designated as wilderness could be used to intensify timber and range management on the remaining land. This would increase total production with little or no increase in appropriations. The theory is not a new one, nor is it entirely foolproof. However, although the economic tradeoffs are not completely offsetting, the concept is rational enough to make the proposed alternative worthy of consideration. Cost of this alternative in 1985 would be nearly $2.9 billion and present net worth would be $48.5 billion.

In terms of the other five alternatives, this is how this one would affect Forest Service activities:

National Forest System

Goals for the nonmarket resources (recreation, wilderness, and wildlife and fish) would roughly follow those set for alternative 4, except that recreational use would more than double (as in alternative 1) and an additional 7 million acres would be added to the wilderness system. Range production would parallel that for alternative 5, rising about 10 percent over the 50-year period. Timber production trends would vary somewhat by region but would increase more than 20 percent nationwide to about 15 billion board feet in 2025. The water resource would fare about the same as under alternative 4 except for some minor differences in the East and Northwest. Mining and human and community development would increase moderately across the country, as in alternative 3.

State and Private Forestry

Cooperative assistance efforts under this additional alternative would nearly duplicate those prescribed under alternative 4 (nonmarket emphasis). Technical and financial aid to increase production of both market and nonmarket resources would be greatly expanded.

Research

Research would follow alternative 3, increasing moderately, with special emphasis on providing a sounder scientific base for environmental planning and management.

The environmental effects of this alternative would also be a composite of those associated with the parts of the five original alternatives borrowed to make up this one.

Appendixes

APPENDIX A

PURDUE UNIVERSITY DEPARTMENT OF FORESTRY & NATURAL RESOURCES

June 25, 1979

Dr. R. L. Youngs
Director, Forest Products Laboratory
USDA-Forest Service
P.O. Box 5130
Madison, Wisconsin 53705

Dear Bob:

I referred my copy of the Forest Products Laboratory RPA document to Stan Suddarth for comment on the specific proposals and alternatives outlined in the report. He is far more technically competent for comment than I. However, I wanted to take this opportunity for a general comment regarding cooperative research between FPL and universities, and urge that such efforts be maintained and strengthened if possible.

Over the years we have maintained a close working relationship with the Forest Products Laboratory, and I believe that I can state that the results of these cooperative efforts represent some of the most significant contributions that have been made by this Department. I believe that the Forest Products Laboratory also ranks these joint contributions among their more significant efforts. We have a number of other capable, competent scientists who do very commendable research. But rarely do we seem to achieve the impact and significance of the cooperative work carried out between our wood scientists and the Forest Products Laboratory. I believe there is a definite synergism resulting from our association with FPL that should be carefully examined and fostered if at all possible.

The Forest Products Laboratory is a vast storehouse of knowledge on practically every facet of wood science and utilization. There is considerable stability in programs and personnel. We too have a critical mass of scientists with reasonable stability. Over the years our two groups have become well acquainted, and developed a high degree of mutual respect and personal friendship. Here in the University, our faculty - through their association with our students, alumni, extension specialists, clientele groups and scientists from a wide variety of disciplines - become acquainted with problems needing solution, opportunities for development, innovative ideas in the wood utilization field. These are conveyed to colleagues at the Forest Products Laboratory, where they are exchanged for and assimilated with new developments

Forestry Building
West Lafayette, Indiana 47907

from FPL research, new products, new knowledge and new ideas. This interaction has produced some most significant research developments.

A most recent example of the benefits of our interaction might be the emerging development of laminated veneer lumber for the furniture industry. This product was developed by scientists at the Forest Products Laboratory, and could have a number of potential uses; but where was a critical market for the development of this product? Professor Carl Eckelman, through his association with the furniture manufacturers, was aware of the difficulties the furniture industry was experiencing in obtaining satisfactory lumber for upholstered furniture frames at a reasonable price. Professor Bill Hoover was investigating market development for low grade, hardwood timber. A close liaison between Hoover, Eckelman and your scientists at the Forest Products Laboratory led to a cooperative project investigating the suitability of laminated veneer lumber for upholstered furniture frames and an analysis of the manufacturing feasibility of this product. In less than two years time, a major furniture manufacturer is in the process of establishing a manufacturing facility for LVL. A new market outlet for raw material is emerging, a facet of the wood using industry has been strengthened, and the consuming public will benefit from more efficient utilization of raw materials, better quality product, and a lower purchase price. I believe it is unlikely that either the scientists of the Forest Products Laboratory or our faculty here at the University would have achieved this success independently -- certainly not within so short a time frame. We could cite similar efforts over the years between S. K. Suddarth and FPL personnel regarding roof trusses, lumber manufacture and light frame construction; or between Professor Hunt and FPL scientists and their work with structural particleboard.

If I can be of assistance in furthering the continuation of our cooperative research efforts, please let me know. I am convinced that such efforts are in the best interests of both of our organizations and vital if we are to achieve maximum public benefit from the expenditures of public funds.

Yours truly,

Mason C. Carter

Mason C. Carter
Professor and Head of Department

MCC:jh

LEAGUE OF WOMEN VOTERS OF WEST VIRGINIA, INC.

Route 2, Box 126
Sistersville, WV 26175
May 20, 1979

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Mr. Steve Yurich, Regional Forester
Eastern Region, Forest Service
633 W. Wisconsin Avenue
Milwaukee, Wisconsin 53203

Dear Mr. Yurich:

On behalf of the League of Women Voters of West Virginia I am submitting the following comments and observations relative to the RPA Assessment and Alternative Program Directions, Review Draft, prepared by the U.S. Department of Agriculture, Forest Service.

An effort has been made to base these comments upon identified needs within West Virginia. The selection of an alternative and criteria for National Forest Service program direction was designed to provide solutions to meet these specific needs. It is understood that program development will be based upon identified national needs of which these are an integral part.

The comments are divided into four sections:

- League Positions Applicable to RPA
- Identification of Needs/Demand-Supply Situation
- NFS Goals/Alternative Selection
- NFS Program Direction/Options/Alternatives

League Positions Applicable to RPA

The League of Women Voters favors the formulation of land resource goals and the development of policies and standards for conserving land resources. Planning and management of land resources should be coordinated among all levels of government. Citizen participation in the planning process should be ensured. The League feels it is the responsibility of government to identify and regulate areas of critical concern, including renewable resource lands where development could result in the loss of productivity.

The League of Women Voters of West Virginia supports the multiple use concept for public forest lands. Timbering activities should be strictly supervised and designed to protect the continuing value of the forest.

Lands should be acquired for public use and public access should be ensured to unique recreational areas, with due regard for carrying capacity.

The conservation and wise use of energy and other basic resources should be incorporated into the planning and management of land.

MAY 28 REC'D

The League favors the gradual shifting from dependence upon non-renewable resources to reliance on renewable resources for energy supply. In achieving this goal, the League favors the use of research and development funds to encourage the development and use of renewable resources for energy.

In all cases the use of land should be related to its inherent characteristics and carrying capacities.

Identification of Needs/Demand-Supply Situation

Timber

Of the total land area in West Virginia 75 percent (11.5 million acres) is in commercial forest. Ninety percent of these forested lands are privately owned. The remaining 10 percent are in State (2 percent) or Federal (8 percent) ownership.

The most recent figures available from the West Virginia Department of Natural Resources, Forestry Division, show a total timber harvest of 166.1 cubic feet. Of that total 151.2 million cubic feet were harvested from private lands (19.9 million cubic feet from forest industries lands and 131.3 million cubic feet from farm and other sources) and 14.9 million cubic feet were harvested from public lands, principally the Monongahela National Forest.

According to the West Virginia State Development Plan only 41 percent of all commercial timber is being utilized to its full potential. Examination of the reasons cited as impediments to full productivity reveals methods for achieving greater forestland utilization exist.

Emphasis will need to be placed on:

- increased education relative to timber management and harvest practices,
- timbering regulations, coupled with intensive water quality and watershed management, to avoid adverse environmental impacts, and
- an improved market.

Recreation

There are thirty State parks and eight State forests in West Virginia in addition to the Monongahela National Forest and portions of the George Washington and Jefferson National Forests.

State parks received 6.7 million visitors in 1977. Of that total, 2.3 million visitors were from out of state. During the same period 1.4 million visits were made on State forests. The Final EIS and Land Management Plan for the Monongahela National Forest

lists 3.25 million visits during 1975. Projected recreation use for all of these areas is expected to show significant increase in the future. An indication of this increase can be obtained by noting the present and projected population figures.

The population residing within a 300 mile radius of West Virginia recreation areas (Monongahela NF, 1975) was in excess of 44.5 million people. By 2000 this population is projected to increase to 67.2 million people.

The State parks and forests and National Forests will be called upon increasingly to satisfy the needs of those seeking outdoor recreation experiences. Careful planning will be necessary to provide for intensely developed recreation areas, dispersed areas and wilderness areas. As is stated in the RPA Assessment, "Co-operative efforts by government agencies, private interests, and individuals...can constitute an important means for providing more recreational opportunities for the Nation."

Energy/Timber

A shift toward the use of renewable resources for energy seems necessary and inevitable as prices increase and nonrenewable resources are depleted. Cooperative efforts by all government agencies and private entities in the research and development of technologies related to the efficient use of wood for energy should be encouraged.

Minerals

Pressures for mineral extraction will increase in proportion to the demand, particularly extraction of energy related minerals--coal, gas and oil. These pressures will be exerted on private and public lands.

Where possible the Forest Service should seek to exercise strict control over mineral extraction. Certainly "mineral withdrawals that are determined to be no longer needed or which are inactive" should be revoked.

Additionally, no mineral extraction should be permitted without previous utilization of timber in the area to be disturbed. Strict enforcement of applicable laws relative to mining and mineral extraction, water and air quality, et al, must be ensured. Plans for post-extraction land uses should be required prior to any resource disturbance other than for exploration purposes. Exploratory disturbances should be stringently controlled to prevent degradation of the forest and to prevent visual disturbance to visitors in the forest.

The Forest Service, working in conjunction with other agencies designated with the responsibility for reclamation of mined lands,

should expedite reclamation efforts on NFS lands. Reclamation should be geared toward reforestation, rangeland development, or recreation, in a manner consistent with the land management plan developed for the area.

NFS Goals/Alternative Selection

Implementation of a modified version of Alternative 4 is recommended. The modification would emphasize low level market and moderate nonmarket outputs.

Under the goals, listed in Appendix B., this shift in emphasis would:

. (Recreation) provide a moderate increase in the national share of use relative to outdoor recreation. Emphasis would be on dispersed recreation facilities and increased wilderness areas. Private investors would be encouraged to create and administer highly developed recreation areas on adjacent non-NFS lands. (The goals listed under Alternative 3 generally apply.)

. (Wilderness) provide for a moderate increase in high quality wildernesses. (The goals listed under Alternative 3 apply.)

. (Wildlife and Fish) provide for protection and management of habitat and habitat diversity consistent with maintenance of viable populations of indigenous vertebrate and selected invertebrate wildlife species. (The goals listed under Alternative 3 apply.)

. (Range) provide forage production for livestock grazing without impairing land productivity. (The goals listed under Alternative 3 apply.)

. (Timber) sustain current levels of timber supply while stimulating major and significant expansion of private timber supply and application of improved management practices. Silvicultural practices should be conducted to maintain current supply as well as enhance natural values. Optimum use for all products, including chemical and energy conversion, should be encouraged. Planning efforts would be aimed at minimizing the visual disturbance to forest visitors from harvested areas. (The goals listed under Alternative 4 apply, except for the modifications mentioned above.)

. (Water) provide technical support services to enhance water quality and water yield for recreational, environmental, and supply objectives. (The goals listed under Alternative 3 generally apply.)

. (Minerals) limit actions on mineral proposals. Fully reclaim lands impacted by mineral extraction in the NFS. (The goals listed under Alternative 4 apply.)

. (Protection) provide management relative to insects and disease, fire use, and law enforcement. Increase basic and applied research relative to improved management systems and techniques. (The goals listed under Alternative 3 generally apply.)

. (Land) intensify land resource management and planning.

Increase technical assistance to States for forest resources planning. (The goals listed under Alternative 3 apply.)

. (Soils) provide, in cooperation with other designated agencies, technical services to aid in the management and imporvement of soil productivity. Emphasize development of soil inventories that aid in environmental assessment. (The goals listed under Alternative 3 generally apply.)

. (Facilities) increase installation of facilities to meet resource goals. Emphasize facilities serving nonmarket activities. (The goals listed under Alternative 4 generally apply.)

NFS Program Direction/Options/Alternatives

The following directions are suggested for selected issues appearing in Appendix C.

Issue No. 1: Alternative 3 should be applied to the options.

Issue No. 2: Alternative 5 should be applied to options 1 thru 4. Under option number 5, harvests should be scheduled to maximize desired nonmarket outputs.

Issue No. 3: Alternative 4 should be applied to the options. As stated earlier, all agencies and the private sector should cooperatively develop efficient methods for the utilization of wood as a renewable energy source.

Issue No. 6: All Alternatives may be applied to options 1 and 3. Under option 2, the use of herbicides for the control of unwanted vegetation should be limited to application under rigidly controlled circumstances and then only when other cost efficient means are unavailable. Great care must be exercised relative to the health and safety of visitors to the forest and residents on adjacent lands.

Issue No. 7: The majority of the Alternatives may be applied to all options. Again, every effort should be made to protect the health and safety of visitors to the forest and residents in adjacent areas.

Issue No.10: Alternative 3 should be applied to the options except where intensive recreation uses are indicated for NFS lands. As stated earlier, cooperative efforts with private investors to supply highly developed sites adjacent to NFS lands should be explored.

Issue No.11: Alternative 3 should be applied to all options. Recognizing that West Virginia is subject to demands for recreation from the eastern population, emphasis is requested for the output of nonmarket goods and services in the Eastern NF to help alleviate those demands.

Issue no.12: Alternative 3 should be applied to all options.

Please do not hesitate to contact me if you have questions regarding these comments.

Truly,

Judy Boyd

Mrs. A. Walker Boyd

THE ELKO CHAMBER OF COMMERCE

1601 Idaho St. - P.O. Box 470 - Elko, Nevada 89801 - Tel. 702/738-7135

June 7, 1979

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Regional Forester
Intermountain Region
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Ogden, UT 84401

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Gentlemen:

The Elko Chamber of Commerce represents the majority of the private enterprise sector of Elko County, Nevada. In reviewing the RPA Assessment and Alternative program, we submit the following comments:

1. Prospective demand-supply situation:
The document points out (pg. 11) potential institutional and technological changes can affect resources demands. Also that changes in energy costs directly affect demands on renewable resources and indirectly affects the general economy. POINT - Therefore, priority should be given to keeping national forest lands available to provide national resource needs.

The document suggests the demand for outdoor recreation (pg. 18) will likely continue to grow at lower levels than during the past. We basically agree with this statement but suggest it will grow slower than the document suggests in view of the geographic location and configuration of terrain of Northeastern Nevada's forest areas as well as apparent trend of reduced travel due to fuel shortages. The main industry of Elko County is tourism. Outdoor recreation is one of the main products of this industry. Therefore, continued access for recreational use of Northeastern Nevada forest lands is vital to the economy of the area.

2. Alternative Forest Service Program Directions:
We cannot concur completely with any of the five proposed alternatives. Rather, we would like to suggest an alternative 6, a high market emphasis with minor emphasis on recreation. Forest lands should be available for public use for recreation purposes. However, we suggest there should not be major development that will compete with private enterprise nor should wilderness areas be expanded which will shut out a majority of the public. A large amount of forest land, by nature is not easily accessible to any but a minute few hardy individuals and therefore is natural wilderness for all practical purposes without official designation requiring costly administration. This alternate

will result in a higher return by wisely developing and utilizing available market resources and also providing access to public land for the public. We suggest not major investment in non market production, fees for all uses commensurate with private enterprise fees and reduced federal involvement in non-federal land activities.

3. Criteria which should be used in determining program direction
The document suggests tentative criteria for determining the 1980 Recommended Program fall into four categories as follows:

1. Opportunities to contribute to national needs.

We disagree on the emphasis for national needs. While we agree that future needs for resources must be a consideration, and for this reason, designation of additional wilderness areas is in direct conflict; we suggest local need should be given first consideration.

2. National Direction.

In line with the above statement, Nevadans have lived with Nevada lands for more than 100 years. We know the nature of our land, we know the land has to be renewed to continue to maintain a balance and serve us. With experience and new technology, Nevadans have learned how to maintain the productivity of their land. Therefore, we suggest local direction in preference to national direction.

We submit <u>local direction</u> will be more effecient and more effective.

3. Environmental Assessment
No comment.

4. Public Involvement.

Again, in line with our previous comments, we submit opinions of <u>local</u> people should carry the most weight. Local people are more familiar with the nature of local lands and local people are most reliant on local lands for economic wellbeing and for recreational needs. Local people are most directly affected by action involving local lands.

4. Identified Issues
Number 8, Consumer Payments for Nonmarket Goods and Services.
Fees should be commensurate with fees set by private enterprises which provide the same type of service.

Number 9, "Alternative Means for Financing.
Funds should basically be derived from users but should not be in competition with private enterprise.

Option 2 should be considered. When developed recreational use is compatable with other land needs, private enterprise can develop and operate specific capital improvements most efficiently.

10. Recreation Development
Multiple use concept is the best plan. Again, local direction should be utilized.

We strongly urge public lands be for the use of all the public. Administration of public lands should be by entities ultimately answerable to the public through the voting process and pressure on Congress. We oppose any further forest lands be removed from the general public domain by transfer to Indian Reservation status such as is suggested in the DEIS Recreational Lease and Conveyance of Wildhorse Reservoir and Lands to the Shoshone-Pauite Indian Tribes of Duck Valley. The proposal of the Shoshone-Pauite will require additional tax monies and will result in loss of revenue to the private sector supplying those tax monies as well as revenue loss to government agencies such as Fish and Game through game violation fines and reduced license fees, etc.

15. Forestry Assistance
The role of Federal government for assistance on non-federal lands should be reduced.

Very truly yours,

Chari Edwards

Chari Edwards
Manager

CE/dr

COUNTY OF SAN DIEGO

BOARD OF SUPERVISORS • 1600 PACIFIC HIGHWAY
SAN DIEGO, CALIFORNIA 92101 • (714) 236-2249

TOM HAMILTON
SUPERVISOR
FIRST DISTRICT

CLEVELAND N. F.
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__ENGINEER
__MD & LUO
__REC. & RES.
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__DISPATCHER
__ARCHITECT
__PLANNING
__HYDROLOGIST
__RANGE
__R/W
__PERSONNEL
__B & F
__CONTRACT
__RES. CLK
__FILE CLK

MAY 25 1979

Office of Information

MAY 28 1979

May 21, 1979

Frederik G. DeHoll
Forest Supervisor
Cleveland National Forest
880 Front Street, Room 6-S-5
San Diego, California 92188

Dear Mr. DeHoll:

I have reviewed the draft report of the Resources Planning Act and have the following comments. The first of these comments refers to the draft report itself and then I've made additional comments on the general direction that I would favor Forest Service resource management take over the next fifty years.

The major concern I have regarding the draft document is its emphasis on increasing output of management intensive ~~[illegible]~~ harvestable wildlife. The range of potential alternatives for policy directions listed in the report does not include those for management at lower levels of demand or output. For example, there are no options listed that would reduce the production of wood products and intensive recreation uses from present levels. A well-rounded report should examine the possibilities of less intensive uses as well as more intensive uses.

In addition, several of the twelve program elements are in conflict with one another. The stated basic missions of the recreation, wilderness and wildlife and fish program elements are in conflict with those of the range, timber and minerals elements. The draft report should clarify these conflicts.

A final comment on the draft report pertains to the section on projections for future needs, specifically the projected need for rangeland. According to the report, the projected number of animal-unit-months for the year 2030 will have to be double that at present; but, this number is based on a projection for an increase of per capita beef and veal consumption from 118 pounds in 1975 to 159 pounds in 2030. This projection seems

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unrealistic. Consumption of beef is closely related to meat costs. Costs of energy and subsequent costs of beef are undoubtedly going to rise. As alternative protein sources are utilized, it would seem unlikely that per capita consumption of beef will increase. The overall beef consumed might increase due to population increases, but the number of animal-unit-months required would probably be less than those projected.

In terms of the general direction of the Forest Service programs, I would support an alternative similar to Alternative 5, "Current Approach," except that there would be greater emphasis on non-market resources and increased wilderness designation. This alternative would provide moderately low cost programs with major emphasis on timber production by the private sector and recreation mainly of the sort requiring individual initiative. Such an alternative would contain low or medium output of marketable resources, medium output of non-market resources, low National Forest Service input for marketable and non-marketable state and private forestry resources, low or medium output for research and medium output for human and community development.

Sincerely,

Tom Hamilton

TOM HAMILTON, Chairman
San Diego County Board of Supervisors

TH:kd

EXECUTIVE CHAMBERS
HONOLULU

GEORGE R. ARIYOSHI
GOVERNOR

Office of Information
JUN 12 1979

June 8, 1979

Mr. Zane G. Smith, Jr.
Regional Forester
USDA Forest Service
630 Sansome Street
San Francisco, California 94111

Dear Mrs. Smith:

I am pleased to have the opportunity to review and comment upon the RPA Assessment and Alternative Program Directions. I can appreciate the difficulties you have faced and the effort expended to prepare these comprehensive reports.

We in the State of Hawaii are proud of our Hawaii State Plan and related planning efforts. The Department of Land and Natural Resources' A Program for the State Forest Lands of Hawaii should meet Hawaii's initial RPA requirements and obligations. It provides for close ties with ongoing Forest Service programs. However, we do recognize the need for a better wildland data base to improve our resource management and related decision making processes. Our plan must be broadened to include forest lands other than state-owned, new programs such as the Energy Tree Farm Program, and new and better data about resources.

We believe that Alternative #3 is in the best interest of the people of the State of Hawaii. This alternative appears to provide for a mix of Cooperative Forestry Programs and Research Activities consistent with the needs of our State. Since there are no National Forest System Lands in Hawaii, our focus will necessarily differ from other states. We trust that your selected alternative will be flexible enough to encompass the problems and opportunities of tropical hardwood forests with large numbers of native forest birds, sensitive plant species, and significant watershed values.

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Wood fiber as an energy source, the utilization of hardwoods, and production from, and forestry assistance to, non-industrial private and non-federal public forest lands are key policy issues to Hawaii. We have opportunities to use wood as an immediate replacement for petroleum at many sugar mills which produce industrial steam and electrical power. Our small forest industry does not have adequate waste to meet this need, so we need to grow fuel while at the same time broadening our total forest resource base. In Hawaii, this must be done on private and non-federal public lands. Expanded Cooperative Forestry Programs may well be the key to reaching the potential of our Energy Tree Farm Program. They further provide technical expertise not otherwise available within the State.

With warm personal regards, I remain,

Yours very truly,

George R. Ariyoshi

WILLIAM C. HOLS
SECRETARY

DEPARTMENT OF NATURAL RESOURCES
OFFICE OF FORESTRY
(LOUISIANA FORESTRY COMMISSION)

D.L. McFATTER
ASSISTANT SECRETARY AND
STATE FORESTER

June 6, 1979

Mr. John Vance, Area Director
U. S. Forest Service, S & PF
Suite 700, Peachtree 25th. Street Bldg.
1720 Peachtree Street, N. W.
Atlanta, Georgia 30309

Dear John:

In response to your letter dated April 3, 1979, File 1910 (3000), we have reviewed the RPA Report, Assessment and Program documents. The following are our comments resulting from this review:

Considering the vast, complex needs attempting to assess this nation's renewable resources situation is a task of tremendous magnitude. To produce a comprehensive plan for future program direction the method of approach in the Report is considered not only a good one, but probably the most effective method which would properly address the need. The information contained in the Assessment document is not only inclusive but for the most part very up-to-date. This document, which should be the backbone of such planning, appears to be a very complete and thorough report taking into consideration all factors affecting our renewable resources.

This agency was requested to give comments in each of four specific areas:

1. Prospective demand-supply situation.

2. Alternative Forest Service Program Directions.

3. Criteria which should be used in determining program direction.

4. Identified issued areas 1, 3, 4, 5, 6, 7, 12 and 15 that relate to state and private forest land.

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5150 FLORIDA BOULEVARD

Comments made in each specific area are relative to the forest resources situation in Louisiana, both directly and indirectly.

Prospective Demand-Supply Situation

This assessment was based primarily on a series of basic assumptions regarding the determinants of demand and supply. The determinants listed were population growth, economic activity and income, technological and institutional changes, energy cost, capital availability, and investments in forest range and water management including utilization, assistance and research. The assumptions dealing with these determinants are fairly general since they are based primarily on past trends. It is understood that past trends are probably the only sound evidence on which the assumptions can be made. However, the question regarding irregularities comes to mind. How will the assessment and program directions as documented be affected by sudden abnormal changes in the trends of the above listed determinants? Certain factors such as abrupt inflational and recessional changes in the economy, new environmental regulations, and market competition for the resource land base are normally classified as having an indirect influence on the demand-supply situation. Such is the usual case, but when those factors veer from normal patterns they usually become direct rather than indirect influences. These remarks may seem insignificant in the light of such a broad spectrum, but at present one of these formerly indirect factors, gasoline, has just recently become a direct if not a governing factor in both the elements of timber and recreation. In assessing the supply-demand situation, flexibility in the "basic assumptions" seemed to be lacking. More options should be made available and detailed specifically to approach problems caused by such "abnormalities" or unusual circumstances.

Alternative Forest Service Program Directions

Establishing a workable schedule of direction to fit an extremely variable and complex area such as renewable resources requires a long, hard look at all sides of the polygon. Care must be taken when choosing one of the five alternatives for a particular program area so as not to tip the scales and upset the balance between it and other program areas. The breakdown of each policy issue into a choice of five alternatives ranging in magnitude lends to a flexible yet specific set of options to choose from. This particular design of alternatives for each issue area allows one to recognize the effect a chosen alternative will have on that of another issue. The fact that local emphasis will have

input into these program levels indicates that a desired level of accomplishments can be realized from region to region. Additionally, the comparisons with current levels of accomplishment allow for a reasonable method of determining future emphasis by each area/region.

Criteria Which Should be Used in Determining Program Direction

The criteria (page 31, Alt. Prgm. Dir.) for determination of the 1980 Recommended Program appears to be very sound and more in depth than the criteria used in the supply-demand assessment. If all considerations under the four general categories of criteria are applied when determining the direction of each recommended program, a concrete plan to meet all possible needs for multiple use of the forest and range land resources will be certain.

Identified Issued Areas

Upon review of the 15 policy issues, careful analysis was made of those eight which deal with state and private forest land. The approach used in the analysis was geared to those circumstances existing in the locality of Louisiana. However, where common situations exist, consideration regarding national needs was given.

Comments Along with the Selection of One of the Five Program Alternatives are Listed by Policy Issue

1. Production of wood and wood products from non-industrial private lands.

   It was stated that the data regarding this issue suggests that private landowners were not responding to increasing timber prices with regards to reforestation. The theory stated in the report is that prices are not high enough and suggests some type of subsidy or price control may be the solution.

   The data that observed in Louisiana contradicts this theory. When timber prices are low, less harvesting as well as management exists. However, when prices are up more intense management is evident but mainly in the areas where harvesting is part of the management plan. Moreover, in most cases timber management by the landowner is used as an excuse to cash in on extra income. As has occurred this year stumpage prices have skyrocketed and so have harvest rates. Overcutting is always a risk in a high stumpage price situation.

Corresponding with higher stumpage trends are inflated costs. Costs related to reforestation are proportionate to high stumpage prices and an inflated economy. Therefore, the tendency is to manage timber if a harvest is involved and the reluctance to reinvest this money in a long term situation is evident.

Such data suggests that market manipulation is not the answer. The approach to this problem is in the same category as that which gives the landowner the urge to sell his timber -- economics. It is economical for the landowner to desire a high price for something that cost him very little to begin with. If the approach to the problem dwells within this principle then the chance for a solution is probable.

For instance, a higher proportion of cost sharing for reforestation is within this same realm. If it costs thelandowner very little in the way of money and effort to get his land reforested soon after harvest, then he may be more inclined to take advantage. It's the old get-something-for-nothing approach.

Our timber resource for the future lies in the hands of the private non-industrial ownership sector since they own 59% of the forest land. Federal and industrial ownerships will be maintained as a matter of necessity for both public and business purposes, but the private non-industrial ownerships are most vulnerable to degradation as more economical opportunities become available for that land base. Therefore, very careful planning and strong emphasis on non-industrial, private landowners is crucial with this policy issue. Among the options available No. 4, combined with Alternative Program Direction No. 1, would be the most appropriate.

3. Wood fiber as an energy source.

Wood for energy will come through economics. When the costs for fossil fuels become prohibitive people will be seeking alternatives. However, lack of information and technology can be a deterrent when considering wood as a potential future energy source. Under the options, a combination of No. 3 and No. 8 would be the best approach to the issue at this point in time at the level created by Alternative Program Direction No. 3.

The Mountaineers
719 Pine Street • Seattle Washington 98101 — 206-623-2314
BRANCHES IN TACOMA EVERETT AND OLYMPIA

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June 7, 1979

Mr. Richard Worthington
Regional Forester, USFS
P. O. Box 3623
Portland, Oregon 97208

Re: RPA Assessment

Dear Mr. Worthington:

On behalf of The Mountaineers, the largest conservation and outdoor organization in the Northwest, I appreciate the opportunity to comment on the RPA Assessment and Alternative Program Directions which has been prepared by the Forest Service. Our club has almost ten thousand members, most of whom live in the State of Washington. We sponsor a wide variety of outdoor activities, such as hiking, backpacking, mountain climbing, canoeing, nature study, skiing and snowshoeing. Most of these activities take place on Forest Service lands. Therefore, we are vitally interested in the planning activities of the Forest Service to implement the Renewable Resources Planning Act.

Before commenting in detail on the various sections of the Draft Environmental Impact Statement, I would like to make some general comments on the Draft Statement. First, there is no alternative which proposes more intensive timber production on high production sites while reducing logging on sites with low productivity. This is of particular concern to us in the Northwest where we see many high elevation sites which were logged years ago which have not been reforested and have not yet been returned to production. Because of poor soils, heavy snow packs in the mountains, short growing seasons, and other factors, many high elevation sites are very poorly suited for timber production, yet these same areas are ideally suited for recreation, watershed use, wildlife and game management, and other non-timber production uses. These high elevation areas often have a potential for great environmental damage, particularly from road construction and soil erosion resulting from clearcutting on steep hillsides. Taking road construction costs into consideration, in many cases the economic return does not justify the cost of logging these areas. They would be better suited for other uses as indicated above, while more intensive logging practices are utilized on low elevation,

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high productivity sites. We know from talking with both the Forest Service personnel and private timber industry officials that in many cases the Forest Service has not pursued an intensive management program. For example, pre-commercial thinning and commercial thinning and scientific selection of seed cones for reforestation are not widely employed. If these practices were followed on the low elevation, high site lands, it is quite probable that the timber volume necessary for the economy could be maintained while preserving high elevation sites for recreation, wildlife, and watershed management.

We note that the option of more intensive management of high site areas was supported by a 1978 Forest Service Study of wilderness area - intensive management tradeoffs. Many economists have suggested this alternative and a number of conservation and outdoor organizations, including The Mountaineers, have previously recommended this course of action. We suggest that this alternative be explicitly addressed in the Final Statement.

The Section dealing with policy issues is quite interesting. We are particularly interested in the issue of production of wood products from private lands. In the Northwest, much of the highly productive private lowland forest lands are being taken out of timber production and converted to other uses, particularly to residential development. This reduced timber base in the private sector is then used as an excuse for increased timber cutting on Forest Service lands to meet the over all national demand for timber. We do not believe that this economic choice on the part of the private sector should be used to pressure the Forest Service into increasing the timber supply from public lands.

Other policy issues are also interesting, such as the possible use of wood fiber as an energy source, export of raw logs, use of herbicides in national forests, and recreational development on national forests. However, there is no information on the costs or impacts of the policy options. By way of comparison, the State of Washington has recently published a Final Statement of its forest land management program which discusses in some detail the impacts of not using herbicides. This type of analysis is necessary in order to make an informed judgment on the various policy options.

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We were somewhat surprised to find that there was little discussion of the entire question of roadless areas and wilderness in light of the recent public debate on the RARE II program. The Statement does not attempt a complete assessment of the amount of roadless land remaining on the national forests, although this presumably was done as part of the RARE II program. It is also noteworthy that there is no discussion of the "back country" concept, although the Forest Service has been promoting this as an alternative to wilderness for some time.

We are also disappointed in the data on dispersed recreation since almost all of our activities would come within that category. The data on dispersed recreation lumps together hiking, backp ing and climbing with such other activities as ORV use, automobile sightseeing, and water sports. Since these activities may well be in conflict, and this type of conflict produces often heated public debate and requires important allocation decisions by Forest Service personnel, we think that this data requires much more careful analysis. Other information needs to be discussed, such as the amount of roads, trails and other facilities which would be required for the different types of dispersed recreation, and the different capital costs involved.

In our judgment, the supply and demand projections need further refinement. Although all timberland is capable of producing some timber, the suitability of land for timber production, regeneration, costs of roadbuilding and harvesting, adverse environmental impacts, visual constraints, and many other factors vary greatly from one location to another and from one area to another. For example, much of the Forest Service land in the West is in high mountainous country where the timber is expensive to harvest and where there are substantial environmental problems. By contrast, much of the Forest Service land in the Southeast is on relatively level terrain where harvesting presents few problems. The Statement should address the question of whether harvesting should be stressed in some areas and other uses stressed in other areas.

In the Northwest, the private timber companies have been overcutting their own lands for years. Also much of their prime land has been diverted to other uses such as residential and recreational development. This puts increased pressure on federal lands for increased timber production, although much of the federal lands is of marginal timber productivity. The Statement should face the shortage in timber supply which we will be facing in the near future. By 1990 the old growth

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forests will be gone, and the timber shortage will be more acute unless present trends are changed. The trade-offs between timber production and other forest uses such as dispersed recreation also need to be considered. Although much developed camping can and does occur on private lands, recreational users looking for hiking, backpacking and mountain climbing and similar types of activities generally must rely on federal lands. The supply and demand analysis should also consider changes in techniques which may reduce the demand for wood fiber and wood products.

The supply and demand comparisons for outdoor recreation opportunities in the wilderness are inadequate. The recreational opportunities section does not deal in any way with the roadless areas and the use of those areas for non-motorized recreation. The wilderness section does not contain an accurate assessment of the available potential wilderness such as is done for the other resources. The comment that the RARE II program may lead to legislation "that substantially increases the supply" of wilderness is ludicrous to anyone who participated in RARE II and observed the amount of land recommended for wilderness by the Administration compared to the potential wilderness available in existing roadless areas. The section also does not point out that most of the areas endorsed for wilderness by the Administration are in the State of Alaska.

This Statement should not be bound by the conclusions and limitations of the RARE II program. Many of the deficiencies of RARE II have already been noted in public comments and in comments made to Congress. RARE II should not be regarded as an artificial limitation on the potential wilderness available. It should be noted that the Development Opportunity Rating System utilized in the RARE II program indicated that nearly half of the roadless areas in RARE II have development costs in excess of the value of the resources which could be obtained by opening those areas to development. This is precisely the type of information which should be carefully analyzed and explored in your RPA study.

The timber supply and demand analysis appears to be questionable. The demand for timber seems to be overestimated and does not take into account such factors as the energy shortage, changes in land use policies, changes in construction techniques, use of alternative materials, the possibility of recycling waste paper products, and more efficient use of forest product residue.

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The alternatives discussed in the report are not complete. Of the five alternatives presented, three are basically continuation of the present development philosophy of the Forest Service with different funding levels. Only Alternative 4, the "Non-Market National Forest Emphasis" presents a real alternative to the present programs and policies of the Forest Service.

Of the four alternatives listed, we support Alternative Program 4, which stresses recreation, wilderness, wildlife and fish habitat, and environmental quality. This Alternative would also provide the greatest increase of wilderness of the five alternatives. We also support the concept of providing high levels of assistance to state and private owners to emphasize high levels of production on non-federal lands. As indicated earlier, in the Pacific Northwest, some of the best private lands are being taken out of timber production for other uses. We believe that this trend should be reversed and that private lands should continue to maintain a high level of timber production. We support the concept in Alternative 4 of stressing timber harvesting on highly productive stands and emphasizing reforestation.

Because Alternative 4 would result in a substantial decrease in timber production from Forest Service lands, there is likely to be considerable opposition to this alternative. We suggest that several other alternatives not listed in the draft statement be considered. For example, one additional alternative would be to utilize intensive management techniques to maintain the present levels of resource production while maintaining existing environmental quality and adding substantial additional wilderness. Another possibility would be to gradually increase Forest Service timber production through intensive management while protecting fish and wildlife and recreational opportunities and encouraging strong private forest programs.

We believe that any alternative which is adopted should provide for substantial increases to the wilderness system. For example, the roadless areas in the State of Washington proposed for wilderness designation by conservation groups account for only 2 or 3% of the total allowable cut in the State of Washington. We believe that this timber production could be maintained by more intensive management of the high yield sites if these roadless areas are given wilderness protection.

We believe that the preferred alternative should take into account the fact that recreational opportunities are available on public lands which are generally not available on private lands and therefore recreation, including wilderness, should

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receive a high priority in the alternative. The alternative should also carefully consider the costs and benefits of timber production in marginal areas, including high road construction and harvesting costs and the possibility of environmental damage and the likelihood of poor reforestation. The alternative should encourage more efficient production from private lands, and should also consider the possibility of alternative materials and techniques which may lessen the demand for timber production in the future.

Thank you for this opportunity to express our views.

Very truly yours,

James S. Sanford

James S. Sanford
President
The Mountaineers

JSS/b

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FAR WEST SKI ASSOCIATION
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(213) 387-2145

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May 4, 1979

John R. McGuire, Chief
United States Forest Service
P. O. Box 2417
Washington, D.C. 20013

Dear Chief McGuire:

The following are the comments of the Far West Ski Association regarding the review draft of the U. S. Forest Service's Report to Congress on the Nation's Renewable Resources, and the 1980 RPA Assessment and Alternative Programs.

Far West Ski Association is a 35,000 member association of the skiing public, and one of nine divisions of the United States Ski Association. Since the majority of ski areas in the West are located upon Forest Service land, we have a vital concern with program directions for the future. Over fifty years of direct contact with this Agency enable us to understand the problems and enigmas they are faced with. We have divided our comments into sections, in an effort to respond to the four specific requests for review, as follows:

1. The Prospective Demand-Supply Situation.

The future supply and demand situation in our National Forests is of vital concern to skiers, since the majority of ski areas in California are located on Forest lands. The last few years has seen a steady pattern of growth in the sport of skiing, both in alpine (downhill) and nordic (cross-country). California has experienced some special problems along with this growth. Because of the, in our opinion, over reaction of the extreme environmentalists, and despite a steady increase in demand, supply, or the expansion of existing areas and/or development of new ones has been brought to a complete halt. The misconception that all development is bad has resulted in no new ski areas being built since 1971.

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The result - drastic overcrowding. Hour-long lift lines are not at all uncommon, for a ski run that perhaps lasts only five or ten minutes, breeding discontent among skiers and dispair over paying an average of $15 for a lift ticket to purchase frustration, rather than fun. The lines and crowds at food lines and restroom facilities are just as long. Accidents are dramatically rising, with a majority of them collisions caused by too many skiers on the hill. This situation has reached the point that the California legislature was forced to enact skier hit and run legislation.

The Southern California ski areas last year saw an almost universal, and incredible, increase in demand of 50%. In no way has expansion to meet this demand been allowed to happen. Area operators who have terrain suitable for expansion remain frustrated in their efforts to bring an adequate amount of it on line. The Forest Service has projected a fifty percent increase in demand for skiing in California for the next six years. In order to meet this dramatic increase, this Agency will need to respond dynamically and swiftly. The first stage of a program to cooperate with the State in bringing supply in line with demand has taken place just this year. The Regional Forester for California has indicated a sincere commitment on the behalf of the Forest Service to bring about this much needed development and we are much encouraged.

However, the Review Draft does not indicate a sincere desire on the part of the U. S. Forest Service as a whole to follow the path set by the California Regional Office.

The table on page 114, reflecting projected demand or recreational activities to the year 2030, shows downhill skiing far above any other activity. Yet, in the last few years, increased recreational opportunities have been concentrated in the area of additions to the Wilderness System. At the same time, the percentage of people using Wilderness areas is on the decline. We find it very difficult to understand this situation.

The 1975 RPA set goals for Wilderness additions. The current RARE II program, will, if the recommendations of the Forest Service are carried out by Congress, set aside more than enough additional [illegible] To increase our Wilderness Preservation System beyond these goals, when the use of Wilderness is on the decline, is unconscionable. Particularly when other user groups are being denied a fair and equitable share of our National Forest lands. There simply must be a recognition of the values of developed recreation, together with a realization of the importance to our economy of adequate supplies of timber, minerals, energy sources, grazing and agriculture lands.

Throughout the RPA '80 documents are projections regarding a leveling off of Wilderness demand due to population aging, plus constraints imposed by energy supplies. Yet the program Alternatives do not seem to adequately respond to these facts. Current demand figures for Wilderness have been artificially inflated by numerous additions to this System. Real demand figures, accurately based upon facts, are not provided.

The members of our Association consider themselves environmentalists, and we have promoted the concept of Wilderness, but enough is enough. We firmly believe that the RARE II program will result in a perfectly adequate and well rounded Wilderness System, with no further need for additions except for areas of extremely high Wilderness values, which also have no potential for other uses.

In our opinion far too much emphasis has been placed upon dispersed recreation, and we do not really see a change in this situation reflected in the Review Draft. The graphs on page 100, which purport to show dispersed and developed recreation use, are misleading in that, although they are placed side by side so as to invite comparision, careful analysis shows that they are not in the same scale. A quick glance would lead one to believe that there were more developed recreation visitor days provided for in Alternative One, than dispersed visitor days. However, after translating the scale, it becomes apparent that quite the reverse is true. This is confusing and misleading, and could result in an incorrect choice of alternatives.

Emphasis must be changed from adding to the Wilderness System, to that of promoting multiple-use. The continuing goal of the Forest Service as it relates to Wilderness should now be placed upon better management of the current system. In the place of additions to the System, there should be programs which allow recreational uses of a broader sort than now permitted in these areas. The pattern of heavy use on the fringes, and lack of use in the interior, could be turned around by the use of minimum sanitary facilities, trail markings, emergency huts and camp sites. Our National Forest lands must supply the needs of a broad range of individuals for many diverse activities. The decline in use of Wilderness areas coupled with the increase in these restrictive land withdrawals, makes little or no sense at all to the general public.

The projections in the Review Draft of a sizeable older population trend, who will need developed roads and trails and other conveniences, are not adequately addressed with dispersed recreation emphasis. Neither are the special needs of the handicapped met with this type of recreation. Yet skiing is possible for the aged, the blind, the deaf, amputees, and a broad spectrum of our population. It is their public land too, and sufficient opportunities must be provided for their special needs.

2. Desirable Direction for Forest Service Programs.

In the opinion of the Far WEst Ski Association, Alternative One with the modifications listed in our summary on page two of this response, best represents our needs. Our main dissatisfaction with Alternative One is in Wilderness allocation, which Alternative Two better represents the position of Far West. We don't feel that a substantial increase in Wilderness, such as called for in Alternative One, is necessary. The current RARE II program should result in a major enlargement of our Wilderness System, making Alternative Two, which calls for additions only of very high quality lands to this System, suitable.

One of the prime factors in assessing the program direction for Wilderness should be sufficient information as to actual cost of these land withdrawals. A true understanding by the public of the limitation of vitally needed market products, would surely surprise and shock the general public. If the cost of Wilderness were to be recovered by a system of cost-related user fees, an even smaller portion of the public which now uses these areas, would be able to afford such fees. Without this statistical advice, it is not possible to make informed, intelligent decisions regarding Wilderness additions. We feel it is possible to supply better data so the public can make an informed choice.

Again, a dramatic increase in desire for skiing, coupled with a lessoning of current Wilderness use, indicates the correct path the Forest Service should follow in land use allocations. In order to meet the demand for developed recreation, especially skiing, the Forest Service is going to have to move forward in a dynamic and positive manner. There can be no more delays.

The current predilection on the part of the Forest Service toward Wilderness withdrawals must cease, and in its place a resolve to follow the wishes and demands of the public for a broader range of recreational opportunities must be commenced. The public as a whole pays for public lands, and policies which prohibit the enjoyment of a vast number of the public of their lands are discriminatory.

3. The Criteria Which Should be Used in Determining Program Direction.

A. Opportunities to Contribute to National Needs. The increase in interest in skiing is national in scope, as is an interest in many other recreational uses on Forest Service lands. A decrease however, is being experienced in interest in activities which take place in Wilderness areas. Therefore, in order to best serve the national needs, opportunities for a broadened range of developed recreational activities must be provided. This means that Wilderness withdrawals must cease, and that multiple-use policies serve as a criteria for program direction.

B. National Direction: The national direction is turning away from Wilderness withdrawals as the only method of environmental protection. [illegible] can produce the cleaner air, water and natural environment that we all seek. RARE II, with its two to one anti-Wilderness public response, clearly indicates this choice.

It is our firm opinion that this overwhelming response does not reject the concept of Wilderness, but rather brings to light the majority opinion that we have reached an optimum Wilderness System. It also exhibits that the citizens of this Nation wish to have economic aspects of land use fully considered, along with environmental standards. There must be a return to respect for economic matters. With little effort, environmental problems can be mitigated without economically damaging policies on behalf of the Forest Service, or any other entity.

C. Environmental Assessment: We don't seem to find much of a relationship between the RPA Assessment, and the Alternatives. There is no valid, concerted effort shown to legitimately assess Wilderness needs, but merely an assumption given that these needs will increase.

There is no adequate estimation of costs of Wilderness. Wilderness withdrawals have an immense negative impact upon our national economy, and must be sufficiently assessed along with the environmental assessments in order to provide the proper information to make an intelligent choice of Alternatives. Cost effective methods of mitigating environmental damage must be found, and are capable of being found.

The RPA recommended program should analyze in depth Wilderness management policies. In particular, this analysis should show how better management could result in better utilization of entire Wilderness areas, while at the same time the natural characteristics are protected. Current management leads to heavy use on the outer fringes of these areas, and virtually no use in the interior. A wasted resource!

Far West Ski Association has long proposed a trail marking, emergency hut system which would enable cross-country skiers, among others, to enjoy larger portions of Wilderness areas. At present, it is simply too dangerous for the average cross-country skier to penetrate too deeply in a Wilderness. This type of trail marking, hut system could be carefully planned so as to not interfere with the gentle communing with nature feeling that one seeks in a Wilderness. Unobtrusive signs, and out of the way huts built of natural materials to blend with the surroundings, would not degrade the Wilderness experience, and would simply allow a broader range of the public to enjoy their lands.

The intent to have Wilderness areas that are totally without any sign of humans is a fine ideal, but as the Assessment states, this is a time of limitation, of coming up against the fact of a finite resource, and all who share these lands must accept a portion of the inhibiting measures that will have to be undertaken. Unconscionable amounts of land which is off limits for the majority of users is something we can little afford today.

The strict limitations of use placed on Wilderness areas are taking a toll on lands open to multiple use. Better management with more uses permitted which are compatible with Wilderness would ease the current patterns of overuse on adjoining lands. Our suggestion of a hut system, together with other means of better management, such as primitive sanitary facilities and campsites, would do much to enhance National Forest land use as a whole. Underutilization of such a valuable, and finite, resource, is counterproductive, and not an extremely wise method of management.

D. Public Involvement: Public opinion must be actively sought, and then carefully evaluated. National Forest lands belong to all, and must be allocated in a manner which allows for the interests and needs of all segments of the population. However, we do expect the Forest Service to make professional judgments, which in some instances may not match public opinion, at the same time that proper weight is given to public comments.

We strongly suggest that attempts be made to make public involvement easier. The average citizen cannot, and will not, make the effort required to study and comment upon documents as technical, massive and confusing as the RPA 1980 Assessment and Alternative Review Draft.

4. Identified Issues.

A. Consumer Payments for Nonmarket Goods and Services. Ski areas which are located upon Forest Service lands pay user fees, which are set in various ways. We do not quarrel with this policy, however, we feel strongly that our public lands do not exist for the purpose of making money. There are many allowable uses which would in some instances bring no monetary return to the Forest Service. For example, cross-country skiers do not buy lift tickets or pay fees which can be returned to the Forest Service. These types of uses which provide no fees are legitimate, however, and should be continued. Public lands are tax supported, and therefore, should be enjoyed by the entire public whether a fee is collected or not. For this reason, we support a continuation of the diverse charge practice, whereby no fees, nominal fees, or cost recovery fees be charged, as the individual situation warrants, and as is deemed appropriate according to use involved.

B. Alternative Means for Financing Capital Development on National Forest System Lands: Far West Ski Association supports the use of private capital to develop, operate and maintain capital improvements, such as ski areas, on Forest Service lands. Private capital is available, and recent suggestions that public funding be obtained to develop ski areas is ridiculous in this time of national concern for less government spending. For many years now, the partnership between the government agencies and the private entrepreneur has successfully operated in the ski industry. This same system has met with success in the concessionaire operations of our National Park System. We see no reason to either end this successful relationship, or to initiate an alternate means of development with public funding.

We agree with statements made that the spectre of public funding vs. private funding rarely delays ski area development, and we concur with the California Regional Forester's Office that a reaffirmation of the propriety of private funding of developments located upon public lands is needed. Ski area development in California has been stalled for a considerable time, but once the inhibiting factors which have caused this impasse are removed, private capital will be speedily forthcoming.

We support expansion of existing authority to contract with public entities for developing, operating and maintaining capital improvements on National Forest lands to provide goods and services for the general public.

C. Recreation Development on National Forest Lands: None of the listed options under this policy question are supported by the Far West Ski Association. A continuation of present policies would simply continue to discriminate against those interested in developed recreation, together with the handicapped, the aged, and the infirm, in favor of the small minority who enjoy and use Wilderness areas.

The charts, graphs, and backup data collected by the Forest Service clearly shows the public's interest in developed recreation, and we fail to understand why this Agency continues to ignore their own data in this matter. The projections regarding population trends and older users of our forest lands, who will require conveniences and developed facilities, further back up the needs to deemphasize Wilderness and emphasize developed recreation. However, the Alternatives presented do not indicate that this Agency is reacting to the public's needs and wishes. The blind assumption of the Assessment, not based upon factual information, that demand for Wilderness will increase in the future, points out a vital weakness in this Program.

No one can make intelligent choices of Alternatives without a better and more accurate assessment of current, and future, needs and the forest's ability to provide for those needs.

It is difficult to choose Alternatives when graphs, such as the previously mentioned one on page 100 of the Report to Congress, are done in such a way as to mislead the public. Without studying the developed recreation and dispersed recreation charts carefully, and noticing the different scale, one would assume that developed recreation targets exceeded dispersed recreation targets. Such is not the case, and in fact, the opposite is true!

We in no way favor the suggestion that expansion of designations of National Forest lands for dispersed recreation take place. We see in this a method to further erode multiple-use, and multiple activities in these areas. Management practices alone by the Forest Service are perfectly capable of handling problems of intensive recreational use in relation to large urban areas without Congressional designation. When situations and conditions change, management policies are much more flexible than would be formal Congressional designations, which cannot easily be changed or altered.

It is the position of this Association that the direction of the Forest Service as to recreation development on National Forest lands should emphasize all forms of developed recreation, and discontinue emphasis on Wilderness activities. We are also of the opinion that management direction in current Wilderness areas should be redirected to broaden the type of activities allowable. An increase in trail markings, plus the institution of an emergency hut system, primitive sanitary facilities and campsites, would permit use by cross-country skiers, plus many other users, of Wilderness areas that are now lying virtually unused during winter months.

The current inequity in land use allocation is clearly shown by the following California statistics. There are nearly three million acres of public land in this State in National Parks and Wilderness, however, there are only seventeen thousand acres of public lands devoted to skiing. Plus, the current RARE II program seeks to add nearly 900,000 more acres to Wilderness in California, leaving in doubt over 2.5 million more acres in further planning. Clearly a program of excessive Wilderness withdrawals in relation to developed recreation has occurred, and this situation must be reversed.

Instead of any of the options listed under this policy question, Far West Ski Association would substitute the following:

> "Expand emphasis upon multiple-use sustained yield criteria, and promote developed, non-wilderness dispersed recreational opportunities."

Promotion of the above would alter the current discriminatory trend in land allocations, and return recreational use of our public lands to majority needs and wishes.

In summary, this Association supports a modified Alternative One, as follows:

> Alternative One: Forest Service programs would provide for both high market and nonmarket outputs on National Forest System lands. This "high level" Alternative would recognize that the Nation's forests and range lands are highly valued both for delivering goods and services, and for preserving current Wilderness resources for future generations to enjoy. Thus, the objectives would be to develop the resources to keep relative product prices low, and environmental quality high in cost effective and reasonable manners.
>
> National Forest System lands would produce significantly increased levels of both market and nonmarket outputs, while providing protection and care needed to maintain the current Wilderness System lands for future generations, with no further additions to the Wilderness System unless both their extremely high Wilderness potential is established, and there is no alternative market or nonmarket use potential.

This qualification of our support of Alternative One would bring quality in our Wilderness System into line, rather than quantity. We do not feel that there will be any need whatever to add to the Wilderness System following the RARE II additions mandated by Congress. At that time, this Nation's Wilderness System should be completely adequate to obtain the purpose of setting aside a reasonable amount of our lands for observation and enjoyment of natural environments.

Many years of emphasis upon additions to this System has resulted in all quality areas being identified, and, in most cases withdrawn from multiple-use and included in the Wilderness System. The RARE II inventory together with the current BLM inventory clearly shows that a desire to preserve unique, primitive lands of exceptional Wilderness quality has descended today to an almost fanatical desire on the part of a small, vocal, and very powerful, minority to seek pure quantity without desire for quality. We are making a museum out of our public lands, with more and more "look but don't enjoy" limitations upon vast tracts of land. Both the RARE II and the BLM inventories played games with the defination of roads and included areas with established roads, as well as areas that had been mined, developed or used so as to degradate their Wilderness potential within lands suggested for Wilderness designation, thoroughly prostituting the value system for choosing Wilderness.

One of our main concerns with the RPA Assessment and Review is that it does not give an adequate picture of the resources available on our National Forest lands, plus the emphasis continues to be placed upon Wilderness and restrictive forms of dispersed recreation.

The facts which support an emphasis upon developed, non-Wilderness recreation are available in good share within the Assessment, but not in an altogether cohesive and easy to find manner. But recreation is not the only loser with the continued predilection towards Wilderness. This incorrect emphasis has far reaching consequences for this Nation. Necessary timber, mineral and energy supplies are being locked away during a time of critical national need. An attitude which promotes strict preservation of our natural resources as the only method of conservation has been encouraged by the practices of various governmental agencies.

We want the Forest Service to divorce itself from this posture, and in the setting of its goals and programs for the future take into account the needs and wishes of those who believe in multiple-use sustained yield. This is important so that not only are the recreational requirements of the public met, but also that due consideration be given to other resource and energy necessities.

Recreation is an important aspect of modern life, and it will continue to be more so as the pressures of an increased population amount. No longer can the wishes of only one segment of the people be exclusively catered to, at the expense of the majority. A choice of a full range of recreational pursuits must be available to each citizen. This is not true today.

However, if a careful analysis is made of the facts of supply and demand for forest land resources, we are confident that this inequitable situation will be remedied, and a new Forest Service direction will be chosen, which follows the mandates of the people, and promotes true equity for all in our national land-use allocations.

Very truly yours,

Edward L. Gehle

Edward L. Gehle, President

ELG:pa
cc: Zane G. Smith, California Regional Forester

Sierra Club
Rocky Mountain Chapter

"...TO EXPLORE, ENJOY AND PRESERVE THE NATION'S FORESTS, WATERS, WILDLIFE AND WILDERNESS..."

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June 7, 1979

Mr. Craig Rupp
Regional Forester
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Dear Mr. Rupp:

We have read "A Report to Congress on the Nation's Renewable Resources" and have spoken to people who have attended a recent information session put on by Regional employees concerning this document. Both have been helpful and have increased our understanding of the Resource Planning Act and its requirements. We would like to have the following comments entered into the public comment record; they are submitted on behalf of the Rocky Mountain Chapter of the Sierra Club, which represents over 3000 members in Colorado.

We would like to first make a few general remarks. We have read only the summary report (yellow book) and have not waded through the massive supporting volume. We are not directly familiar with the 1975 RPA study, nor are we generally knowledgable enough about the renewable resource base in this country to offer a "professional" critique of this RPA report. What follows is therefore "quick and dirty." Opinions are based on intuitions and on a feeling for National Sierra Club policy and philosophy.

Assessment of future "needs" and "demands" is extraordinarily tricky. We trust that both Forest Service (FS) personnel and their political overseers understand that. The RPA mandated 5-year reassessments are certainly a good thing, as indicated by changes in the activity levels between the 1975 RPA study and the present one. It is therefore important to consider basic assumptions very carefully. We find the following problems:

1. Population - The "low" projection strikes us as most realistic. Looming energy and materials problems will create chronic economic problems which will in turn, as they have done in the past, diminish birth rate, as well as bring political pressures to reduce immigration. Present trends in Europe may presage trends in the United States.

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2. Gross national product and disposable personal income - Projected increases of factors of two or three in the next quarter century are grossly counter-intuitive. They are merely projections of past trends based on cheap energy and cheap raw materials. When one is on the down side of an historic bell-shaped production curve for non-renewable resources, the past is not prologue! Yet, this projection is the single most important element determining the FS's version of future demands, and does not get anywhere near the discussion due it in the summary document. How sensitive are all projections of demand for recreation, water, board-feet, etc., to this one parameter?

3. Capital availability (p. 12) - If our feelings above are correct, how much capital is likely to be available for program expansion? Some people, notably Amory Lovins, have asserted that so much capital will be necessary to replace present non-renewable energy technologies, that precious little will be left for other things.

4. Other assumptions (p. 12) - It would be better to at least mention them in the summary document.

5. Demand for outdoor recreation - Increases in price and decreases in availability of liquid fuels will certainly have a major impact here that may not be reflected in the projections. Certainly usage patterns will change from a high use of RV's to dispersed activity requiring only cheap transport to the site. The amount of increase of visitor use may be reduced unless the government and local tourist industries make more imaginative and aggressive use of mass transport, e.g. ski trains or busses. We might see an accentuation of recreation extremes to dispersed, cheap, wilderness camping together with resort-type recreation near bus or train depots. Because of their proximity, state and private recreation lands will grow in importance.

6. Demand for wilderness (p. 2) - Amount of increases could slow because of fuel problems and because of saturation of the assumed available resource. However, present use of de facto wilderness on the national forest should be carefully studied and used in projections of future demand, therefore presenting a more reasonable understanding of demand for wilderness.

7. Demands for Wildlife and Fish (p. 23) - This section's emphasis on increasing demands for wildlife is probably correct, but we think that changing awareness and fuel problems will increase non-hunting "uses" for game and non-game wildlife, especially in near-urban parks. The discourse on habitat loss and consequent decrements in wildlife numbers and diversity is perceptive, and consonant with our belief that a good way to protect habitat is

through wilderness designation, less through the wholesale meddling that constitutes present wildlife "management." The text alludes to an absence of a reliable habitat inventory--a problem that needs prompt correction, otherwise how can one manage something which is not well understood? Energy developments will have other impacts on wildlife, especially in Colorado's western slope, directly and indirectly because of the influx of a large number of new people. It is unlikely that a large number of new hunters and fishermen can all be accomodated; therefore, use will likely level off when people become dissatisfied with the quality of their hunting or fishing experience. If non-hunting wildlife uses increase as projected, then, if for no other reason, we must forsake the present monomania for game animals and preserve habitat for a greater variety of species.

8. Range (p. 31) - Projection problems again: A per capita beef consumption increase of almost 50% (118 - 159 lbs./year) strikes a consumer like myself as just plain silly. A lot of people are cutting back on beef consumption for dietary and price reasons and this trend seems likely to continue. Of course, as noted, changes from corn- to grass-fed beef may influence price and consumption, but a 50% increase is still hard to swallow. The Sierra Club understands the need for careful grazing on selected public lands, as long as grazing fees are in line with those on comparable private land. When fees are allowed to rise to their fair market price we can make a more intelligent choice of how much public land to put into range and how to manage that land. Also, we are skeptical of large scale, intensive range management schemes and their effects on native flora and fauna in the long-term.

9. Timber (p. 36) - Projections in this section seem unrealistic, but much depends on whether or how much wood will be used as an energy source and what shifts occur from single to multi-family housing. We would like to see much more recycling of paper products; rising prices will result in more recycling. Large increases in imports are problematic, at least from underdeveloped countries; present clear-cutting practices are having a devastating effect, and firewood is becoming a scarce commodity.

   The "fiber" referred to on page 40 is not a wasted resource simply because it is left on the ground. As I understand it, that material retains a disproportionate precentage of the nitrogen and minerals present in the tree and is beneficial when left where it is.

10. Water (p. 46) - Projected increases in consumptive water use may be too high. We anticipate that less consumptive irrigation techniques will gradually come on-line as conflicts for water use and quality increase. Energy developments in Western Colorado will impinge on agricultural uses severely, making changes in practice necessary. Page 48 has a discussion of opportunities for increasing an area's useable water supply; we support only more efficient irrigation and watershed management. We believe that the best form of watershed management is the management of the watershed as wilderness. On page 49, the statement is made that a good watershed management technique is to replace shrubs by grass. This is reasonable providing the grass is native to the area, and Federal agencies prevent the sort of overgrazing that destroyed the original grass cover. The greater research effort called for on page 49 is certainly badly needed. In particular, research into the reclamation of strip mined lands is vital, since a considerable increase in mining is projected for western lands that may not be reclaimable by present methods.

11. Fuel minerals (p. 50) - Again, projections here are questionable because of personal income and energy use projections. The use of western coal in particular will be strongly impacted by energy conservation efforts, political considerations (Easterners want to increase their coal business), transport expenses (and the acceptability of coal slurry lines), and nationwide SO_2 scrubbing regulations. The factor of three production increase for coal is the highest projection made by the Department of Interior (DOI) in its coal leasing program, and we understand that DOI does not take that prediction too seriously. Projections for non-fuel minerals will be impacted to a greater or lesser degree by conservation (recycling), political (e.g. a reform of the 1872 mining law), esthetic (e.g. Crested Butte vs. Amax), water quality, and energy cost considerations. More research is needed into the reclamation of existing and future hard rock mine spoil banks, and the treatment of acid mine drainage.

The following are our comments on the policy issues and the various options offered.

Policy Issue 1:

We favor increasing timber production on private lands. However, we would not want to make this timber artificially cheap, nor to urge the adoption of forestry practices that might have a short- or long-term adverse effect on water quality or soil productivity. After all, private forests also serve multiple uses, and we would not want the FS to do by proxy on private land what it would not have done on public land. The use of private timber would be encouraged in some parts of the country if the FS would sell its timber at the market price rather than at a discount. Option 5 is favored.

Policy Issue #2:

Option 1 is the best of a bad lot on this question, since nondeclining, even-flow should definitely be continued, old growth harvest should not be accelerated, and rotation ages should not be shortened. To us, the bottom line in timber cutting is not standard economics, but rather the economy of nature and its tolerance of artificial distortions. "Intensive management" boils down to turning a complex organism like a forest into a simpler thing like a cornfield--many subtle and not-so-subtle qualities are lost in the process. The FS must not be panicked by price trends into a policy of unwise cutting.

Policy Issue #3:

Our culture presently has such an insatiable appetite for energy that to proffer FS biomass as an energy source is a bad idea. We might soon repeat the experience of many underdeveloped countries which have destroyed large forest tracts and watersheds to keep up supply of firewood. We must first do all we can to save energy, then generate some energy from municipal trash and logging waste, then, if necessary, plant species specially adapted to (private) marginal lands as an energy crop. Energy represents only one social value among many, and because an energy project is "solar" or "renewable" does not mean that it is always desirable. Moreover, studies I have seen seem to indicate that softwood energy farms might not produce much net energy, even under the best of circumstances. Our intact, undisturbed forests can be viewed even now as energy saving devices in the sense that they supply us with high quality water. We favor some combination of Options 2, 3, and 8, which would be useful as long as the intent was not to apply research results to most public lands.

Policy Issue #4:

This is not an issue in Colorado.

Policy Issue #5:

Again, the question is not "what are the end uses of timber," but "what can forests tolerate and still remain healthy." Considerations such as how much is cut, where, and in what manner interest us most. However, to reduce economic pressures on forest managers, we favor a combination of Options 1 and 2.

Policy Issue #6:

The recent silvex controversy points up possible short- and long-term effects of herbicides. Since we favor the minimization of the use of foreign materials and chemicals in natural areas, we favor Option 2 and in the long run, Option 3. Programmed burning, manual brush control, etc., are preferable.

Policy Issue #7:

Ditto above. Environmental Protection Agency pesticide registration has only a loose relationship to toxicity knowledge, ergo better safe than sorry. We favor Option 2 followed by Option 3 as research progresses. Biological controls and integrated pest management are preferable.

Policy Issue #8:

It is reasonable to us to expect that all users of FS lands, whether cattlemen, lumbermen, miners or recreationists, should be liable for fees which cover at least part of the cost of managing that use. We can accept fees for recreation, especially if the money is used to support and repair the damage of) recreational use. Fees are fair because only a certain percentage of the taxpaying public directly uses FS land for recreation. Perhaps any bureaucracy is more likely to bite the hand that does not feed it. We favor Option 3.

Policy Issue #9:

In general, we do not want pressure on the FS to produce goods and services simply so that money is returned to the Treasury. However, the idea of a fund for longer term projects that bypasses the vagarities of the yearly appropriations process might have some merit. A lot depends on the sort of capital improvements the FS has in mind. We are leery of too much involvement of the private sector in "developing" public land; the Music Corp. of America's impact on Yosemite National Park is a good (or bad) example. The FS is the responsible land management agency for forest lands and must never delegate its responsibilities, even slightly or indirectly, to profit-oriented external organizations. A modest version of Option 3 might be acceptable.

Policy Issue #10:

Our interest in FS lands is sometimes seen as being recreation-oriented, but we are far more concerned about the long-term health of the forest as a living system. No form of recreation should pose any substantial adverse impact on this system. Therefore, increments in recreation "outputs" must be weighed carefully, and it may be, and has been, necessary in some popular areas to restrict recreational use. We strive for wilderness designation to preserve various ecosystems and to be able to experience them, but wilderness recreation still requires active,

sometimes restrictive (i.e. permits), management. In some cases, it may be useful to encourage certain types of private development on the outskirts of public lands to reduce the impacts of camping (for example, some sort of hostel system as in Europe, or the hut system in New Hampshire). We favor a combination of Options 3, 4, 6, and 1. We trust Option 6 would serve the intent of Option 5 but for broader ranges of activities, and would result in diversified and strengthened local economies.

Policy Issue #11:

The Eastern National Forests are an absolutely vital source of recreation, wildlife habitat and watershed protection for the East. For this reason, and because of the large privately-held resource, timbering must have a low priority. Ownership patterns should be rationalized as much as possible, consistent with the preservation of whole ecosystems. Options 2 and 3 are favored. Option 5 is attractive if it means emphasizing diverse native hardwood species and de-emphasizing the trend to single species softwoods on the National Forests.

Policy Issue #12:

The encouragement of "multi-resource outputs" on private timber lands seems like a good idea. For example, non-dispersed, campground-type recreation could perhaps be accomodated on private land, leaving Federal land more free for other outputs such as high quality dispersed recreation, wildlife protection, etc. I am not sure which option(s) best fulfill this purpose.

Policy Issue #13:

There are three issues of importance to us here:

1. The long-term nondeclining yield of FS rangelands must be guaranteed; no overgrazing should be permitted.

2. There must be adequate forage for wildlife; the introduction of non-native species must not diminish native wildlife habitat.

3. Grazing fees should be no less than those paid to private land owners with comparable range in the vicinity.

Because overgrazing has occurred in the past in many areas, rangeland improvements within the limits stated above are probably O.K., but the FS should consider on occasion whether the best range improvement practice might be to simply reduce grazing and let the land restore self. We favor a combination of Options 1, 3, and 4.

Policy Issue #14:

Mineral exploration should not be encouraged by the FS because:

1. Present operation and reclamation regulations for hard-rock mining are weak or non-existent. There are no statutory criteria for identifying unsuitable lands.

2. Minerals are a non-renewable resource; the Government should encourage their conservation and recycling, not their production from virgin ore.

None of the five options are particularly acceptable, and 2 to 4 are very offensive to us. Options 1 and 5 might be more acceptable, if there were a leasing system and a thorough reform of the 1872 mining law.

Policy Issue #15:

The FS should give as much technical assistance as possible to state and local forest managers, because such people often lack the funds and expertise to do their job right. A good local example is the Denver Mountain Park System's bungled approach to the pine beetle problem on its lands. FS advice might have reduced the damage.

In addition to the policy issues that have been addressed, attention should be paid to the following:

silvicultural systems (what reliance will you have on clear cutting, even age management, etc.?);

old growth areas (inventory, recognition of values, and preservation of representative stands);

lumber vs. pulp production;

production tradeoffs available between FS and private lands;

trail construction and maintenance;

motor vehicle use (conflicts and appropriate use areas);

cost-effectiveness evaluations of management options.

Comments on Alternatives

Alternative 1: This alternative seems to demand too much of the forests, to stretch their capability to withstand abuse, to convert them into "goods and services" machines with all the simplifications implied by that. How can we squeeze out more timber, more AMU's, more water, more recreation etc., and yet enhance environmental quality? It is not clear to us what environmental quality would mean in such a highly managed forest. In addition, alternative 1 accepts as inevitable all the projections for future demands that we find questionable.

Alternative 2: This alternative has some attractive features if one recognizes that there is sometimes virtue in doing nothing rather than doing something whose long-term effects may not be well understood. Perhaps this alternative's discouragement of developed recreation, timbering, mining, etc., might prevent as much damage to ecosystems as reduced reforestation and range improvement programs might allow. Whether a reduced management role has net benefit depends a lot on whether and how much demand actually grows. In general this alternative is likely infeasible.

Alternative 3: It is not clear what "moderate" means in the context of this alternative. The National Sierra Club found the 1975 RPA report rather "immoderate" in its discussion of market goods production, and alternative 5, present policy, seems to acknowledge that indirectly. We therefore do not favor this alternative.

Alternative 4: This is obviously meant to be the "environmentalists' alternative," however projected decreases in outputs of timber and grazing make it likely infeasible. In addition, some effects claimed for this alternative are puzzling. Why, in providing more habitat diversity for wildlife, is there not more species diversity for vegetation? Nor is it clear why vegetation production should be decreased. In the longer term, it would appear that this alternative would protect forest soils from the abuse that logging and other "industrial" uses create, and so enhance long-term production. Finally, negative social impacts attributed to this alternative seem exaggerated. Recreation and wilderness expansion diminish logging, and, to a much lesser extent, grazing, but how much are local economies really dependent on such industries? At least in Colorado, tourism is now the largest or second largest industry and this would be favorably impacted by more recreation use. Moreover, encouragement of greater production on (generally more productive) private and state lands may balance less production on Federal land.

Alternative 5: This alternative is deficient in areas of wilderness, recreation development, state and private reforestation aid, and fish and wildlife habitat. However, this alternative is better than either 3 or 1.

In summary, the alternatives might be ranked in this order of preference: #4, #2, #5, #3, #1. However, we strongly suggest consideration of an alternative which would lead to more intense management and expenditures of FS lands already partially developed and likely more productive, and less attention and pressure on lands still basically untouched. Such an alternative seems quite logical, could potentially provide all the outputs of other alternatives while reducing conflicts and preserving the character of these remnants of FS lands still relatively untouched.

We trust that these comments will be of value to the Forest Service as it considers a final version of the RPA Assessment. Again we stress that our ideas are not as detailed and as probing as the subject deserves. The most important single question to us is the projection of the growth in personal income which has large impacts on growth projections for various demands on renewable resources. This projection should therefore be discussed much more fully in the final report, as well as a sensitivity analysis for this parameter in the economic models.

Respectfully.

Connally Nears

Connally Nears
Wilderness Coordinator
Rocky Mountain Chapter
of the Sierra Club

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June 5, 1979

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Dear Sir:

We have reviewed the draft Forest Service RPA Assessment and Alternative Program Directions with the supplemental Regional Issues and the Summary Guide provided by your office. This review has been made with the document Regional Guidance - Region 4 at hand. We offer the following comment:

General Comment

We are fully aware of the many pressures that the Forest Service encounters as it manages the national forests. We believe that it is acting or reacting unwisely to some of these pressures. We respectfully wish to comment on some policy decisions that seem to have been made. These are not necessarily issues as defined in your documents and will be commented on separately. They are, however, important to resource planning for our national forests.

First and most importantly, it seems to have been overlooked that our National Forests were set aside for specific purposes; namely, to provide a source of timber for our country's lumber needs and to protect the water resources which originate in the contained water sheds. More recent Congressional action provided for renewable resource planning directed toward integrating all uses of the forests to a maximum consistent with good management practices. It should be emphasized, however, that these newer actions by Congress did not result in a replacement of the original purposes of the National Forest System but in supplementing them. The supplemental "multiple uses" of renewable resources such as recreation, grazing or wildlife are surely important and must be given every consideration when planning for forest system management. This, however, cannot legally be done if it is detrimental to the original charter of the national forests - timber and water production. An early recognition of the above by everyone concerned will be of substantial help in answering several of the regional issues listed.

A second matter of concern is a policy that seems to exist concerning the road system on the National Forests. This policy is to ignore the existence of a substantial mileage of unimproved roads. These roads do not meet the definition of a road as used by the Forest Service in making the roadless area inventory for Rare II. These roads are, however, much traveled by many forest users and the Forest

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Service itself. They are very important to miners, ranchers, sports hunters and fishermen and for recreation purposes. They also provide access for forest management and improvement programs.

It is impossible to do meaningful planning for forest uses without recognizing the existence of the roads (both present and future). They should be given a place in the planning process commensurate with their need and use. As a minimum, the users of this vast road and trail system are entitled to know if they are to be closed, maintained as they are, or improved. The "head in the sand" approach presently being used by forest management will not make these roads go away. Some of them have been used for a century and such use will probably be continued for another century.

A positive approach to the matter will also help resolve some of the listed regional issues.

The third questionable policy relates to mineral and energy production from the National Forest. The problem here concerns the uncertainty or lack of policy displayed. The need for mineral production from the National Forest is recognized, but there seems to be reluctance to give this non-renewable resource required preference over other renewable resource programs.

The responsibility of the forest service is clearly spelled out in the various pertinent laws passed by Congress. These begin with the Mining Law of 1872, continue through the various preservation laws such as the Antiquities Act, and through the various environment laws such as the Clean Air Act. This responsibility is described below:

1. Under the Mining Law of 1872, the Mining and Minerals Policy Act of 1970, and other mining laws, the national forest land is to be made available for the discovery, development, and production of minerals and energy wherever they are found in commercially viable quantities. An exception to this is those forest lands which have been withdrawn from mining for various reasons as provided by Congress.

2. The Forest Service, as the administrative agency, is responsible for:

   a. Review of mining plans and operations to prevent unnecessary or undue degradation to the forest lands.

   b. Review of mining plans and operations to minimize disruption of other forest uses by mining.

   c. Review of mining plans and operations to insure compliance with all preservation, conservation, and environmental federal laws that are applicable.

3. For Forest Service lands considered for withdrawal from mining, the Forest Service is responsible for accumulating all facts

necessary to making a decision by Congress based on full cost-benefit analysis. These facts must include a comprehensive minerals and energy inventory.

If the laws already passed by Congress are followed, the question of mineral and energy production from the National Forest should not be an issue.

Fourth and finally the Forest Service seems to be developing a policy of producing instruction manuals for every aspect of a ranger's duties (after it has been subjected to extensive public hearing.) Such a policy can only result in the suppression of the professionalism which in the past has been a respected trademark of the forester. The surrounding of the initiative and justment of the individual with a wall of regulations will only result in the bureaucratic obfuscation that is common in too many government agencies.

We suggest that a place be found in the assessment and program directions for exercise of professional discretion.

Thank you for this opportunity to comment.

Respectfully submitted,

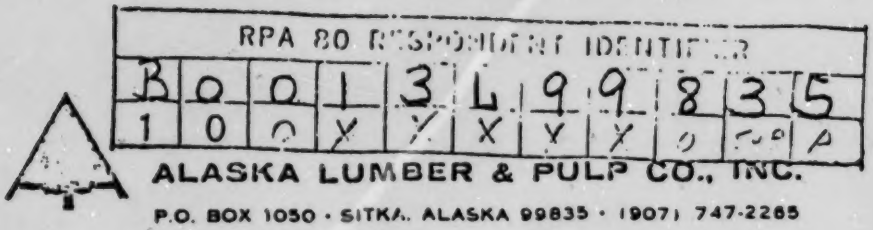
Robert E. Warren

Robert E. Warren
Executive Secretary

Howard Winn

W. Howard Winn
Consultant

WHW:v
cc: Mr. John Lavin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ALASKA LUMBER & PULP CO., INC.
P.O. BOX 1050 · SITKA, ALASKA 99835 · (907) 747-2285

June 4, 1979

Mr. John Sandor
Regional Forester, U.S.F.S.
P. O. Box 1628
Juneau, Alaska 99802

Dear John:

Thank you for the opportunity to comment on the draft: "A Report to Congress to the Nation's Renewable Resources". A fifty year planning venture is most difficult to undertake, and we congratulate the Forest Service for a job well done.

One general criticism is the draft's failure to consider apparent world trends and resource allocations. For example, the Japanese forests should be returning to higher outputs by the year 2010. This certainly will have an impact upon export of U.S. and Canadian logs and forest products abroad. Furthermore, oil allocations by OPEC should create sufficient shortages so that the price of oil will rise dramatically. This in turn should increase the demand for wood as a fuel source which in turn will impact utilization quite heavily. Such worldwide resource usage patterns and impacts should be considered in putting together the Program.

A second general matter that seems to be missing from the draft is what might be termed "regional realities". For example, in the Tongass National Forest a certain amount of timber is needed from the National Forest to maintain the existing industry. We had thought that the Administration

recognized 450 MMBF as the needed amount. Additionally, certain funding levels may be required to provide such an annual volume. This should be displayed. There is also the fact that Native timber will be coming on line and will be to market during the period covered by the report. What impacts will this have on the Regional demands for public timber? This question and similar questions could be asked for timber demands in every region.

In other words, there are floor levels required to maintain existing regional economies and mills. Thereafter, an additional increment of timber and outputs of other resources should be available to meet anticipated national and international demand levels. The maximum of these two amounts should be the floor harvest for each Region. There is no assurance in the draft that this consideration has been taken into account in determining what the national output totals should be.

We would like to comment on the Alternatives. We appreciate the Regional insert which describes the impacts of each of the proposed Alternatives on Region 10. As we understand the insert, Alternative one would provide 450 MMBF per annum, Alternative two 340 MMBF, Alternative three 370 MMBF, Alternative four 340 MMBF, Alternative five 370 MMBF. These figures seem at odds with the bar graph of programmed sales offerings for the Tongass National Forest under each of the Alternatives at Page 163 of the draft. Please advise us of which is correct.

Naturally, Alaska Lumber and Pulp Company, Inc., supports the highest possible yield from the Tongass National Forest. As you know, the historic industry usage has been an average of 520 MMBF. After 1974's peak harvest of 588 MMBF, the industry experienced an inventory adjustment in 1975. Thereafter, a continuing debate with the Forest Service regarding stumpage prices coupled with a poor market lowered the average harvest for the last four years to approximately 430 MMBF. We do not believe it appropriate to freeze the industry into the low end of the business cycle at 450 MMBF as the Carter Administration has done in its

RARE II, d-2 program for the Tongass. We recognize that should there be no additional intensive management funding for the Tongass National Forest the potential yield under the Administration's approach will drop to 360 MMBF. However, it is our understanding that the $11.7 million dollars for the Tongass will be taken from other areas of the country if necessary to maintain this region at the 450 MMBF level. If we are not correct in this assumption, please explain why we are not.

Since 520 MMBF has been the historic average industry harvest, we believe that Alternative one, the high level alternative, should have provided for an annual harvest of 520 MMBF. We urge that the draft be changed to reflect this harvest level. We would support Alternative one with this change as regards the Tongass National Forest.

We are shocked that the proposed harvest level from the Tongass National Forest would in any event go below 450 MMBF. Secretary Cutler has time and again committed the Administration to maintaining a programmed harvest of 450 MMBF for Region 10 in perpetuity. Thus, we would expect to see 450 MMBF as a minimum in each of the alternatives. Please explain why this is not the case.

The various policy issues displayed at Pages 54 through 66 of the draft are excellent. We have responded to the following policy issues:

1. Production of Wood and Wood Products from Non-industrial land.

RESPONSE. We would select policy option number two: "working through state government in an attempt to increase cost effective multiple use assistance to landowners most likely to respond." This would seem the most logical course to follow on the Tongass National Forest and on the Chugach National Forest and the rest of the industrial forest land in Alaska until the direction of Native operations comes into focus. There would be no point in expending additional funds at this point in time without knowing where to spend them and how to most effectively use them.

2. Level of Production and Wood Products from the National Forest System Lands.

RESPONSE. We believe that the Forest Service should attempt to increase the yields nationally. It is clear that there is a present pent-up demand for single family housing as well as soft wood fiber products. We should seek to maximize outputs from the national forest and from non-industrial private timber land to not only achieve self sufficiency with respect to this increased demand, but to also provide an opportunity for export of American-manufactured products. This is one way the United States can offset its deficit in the balance of trade occasioned by increasing oil prices. In this regard we would support the program of accelerating the harvest of old growth and mature timber by adopting the necessary support measures and making appropriate cost effective expenditures and multiple use trade-offs within a redefined policy of sustained yield. Further, we would seek to reduce rotation lengths and allow reasonable variations in rotation periods.

3. Wood Fiber as an Energy Source.

RESPONSE. We believe that the Forest Service should use all available means to help develop a market for wood as an energy alternative. This would include the research, development and market analyses needed to have wood used for energy in the United States. Furthermore, the Forest Service should provide purchasers an incentive to use wood residue for fuel in manufacturing.

4. Utilization of Hard Woods.

RESPONSE. No comments.

5. Export, Import of Raw Logs.

RESPONSE. Alaska Lumber and Pulp Company, Inc., continues to support policy of primary manufacture before round log export from all public lands.

6. Herbicides in National Forest System Management.

RESPONSE. Since we do not use herbicides in Region 10, we are not in a position to respond.

7. Pesticides in Forest and Rangelands Management.

RESPONSE. Since we do not use pesticides in Region 10, we are not in a position to respond.

8. Consumer Payments for non-market goods and services.

RESPONSE. We believe that in an effort to encourage use of National Forest resources for fuel purposes it would be wise to establish reasonable cost-based fees for non-market goods and services.

9. Alternative means for financing capital development on national forest system lands.

RESPONSE. We believe that this is an area that needs considerable review. However, it would seem that the wisest course is that the Forest Service be authorized to expend funds received from stumpage payments and other timber operations to increase timber yields. In other words, as regards timber production, the Forest Service would operate as a quasi public agency using the funds it receives from stumpage to continue its programs. This would cause the Forest Service to work toward reasonable rates of return and manage the forest in a more cost effective manner.

10. Recreation Development on National Forest System Lands.

RESPONSE. We believe that the Forest Service should continue its present policies of multiple-use sustained yield criteria on an area-by-area basis. However, we believe that after d-2 wilderness allocations have been made in the Tongass National

Forest, no further wilderness allocations ought to be recommended for the Tongass. The Forest Service should consider the wilderness system in the Tongass complete at this time and look only toward developed recreation opportunities so that tourism opportunities in Southeast Alaska can be maximized. This should include creation of developed recreation areas adjacent to wilderness areas.

11. Eastern National Forests.

RESPONSE. No comment.

12. Multi-planning and management on non-industrial private forests and rangelands.

RESPONSE. Again, given the status of Native entry into the timber industry, we would recommend that the program at this point simply encourage the State to expand its forest resource planning as authorized by PL 95-313. Additional funds might be sought after planning direction is determined.

13. Forage for Domestic livestock.

RESPONSE. No comment.

14. Minerals from National Forest System land.

RESPONSE. We believe that the Forest Service should place greater emphasis on consideration of mineral potential during multi-resource planning for National Forest system lands. Further, the Forest Service should develop public information programs concentrating on expanding the mineral development and extraction on national forest system lands. On the Tongass National Forest, the potential to increase employment through mineral development is high. Therefore, it would seem important to increase exploration here. This is particularly true since the Tongass Land Management Plan has now identified VCU's with high mineral opportunities.

15. Forestry Assistance for Federal non-public lands.

RESPONSE. We believe that this offers a tremendous opportunity to the State and Nation at the present time. The State of Alaska is still in the process of selecting its lands, some of which will have forestry potential. Other lands already selected by the State have known forestry potential. We would hope for greater cooperation between the State and the Forest Service to increase the programmed harvest from the State forest lands. Hopefully, Region 10 will seek funds to do this.

Again, thank you for the opportunity to comment on this draft.

Yours very truly,

ALASKA LUMBER AND PULP CO., INC.

J. A. Rynearson
Senior Vice-President

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STATEMENT
OF THE
SOUTHEASTERN LUMBER MANUFACTURERS ASSOCIATION
TO THE
U. S. FOREST SERVICE
ON THE
RPA ASSESSMENT AND ALTERNATIVE PROGRAM DIRECTIONS

JUNE 8, 1979

The Southeastern Lumber Manufacturers Association is an Association of 410 independently owned lumber manufacturers in twelve southern states. These mills collectively cut approximately three billion board feet of lumber annually. All of these lumber manufacturers are vitally interested in the upcoming decisions to be made on the Program directions for the Renewable Resource Planning Act.

Everyone is aware of the increased demands which will be placed upon all resources over the next fifty years. Various studies will give different figures, but all will agree on basic concepts: The population will continue to increase. Per capital income and disposable income will continue to rise. Leisure time availability will also continue to increase. What this means is the United States will have more people with more money to spend and more time in which to spend it. Demands on all goods and services will increase.

Decisions have to be made now to assure the resources will be available to meet these increasing demands.

According to the Assessment document, the South will have a major role in meeting this nation's demands for renewable resources. The Assessment shows 219 million acres of forest land is located in the South. This is more than any other single region and is approximately 30% of the total forest land available. The South contains the most productive timberlands this nation owns. Approximately 167 million acres of the forest land in the South is capable of producing 50 cubic feet or more of wood per acre per year; this is approximatly one half of the nation's total forest land with productivity this high.

Other facts must also be faced. In 1962 the South had approximately 231 million acres of forest land. Over the past 17 years, the forest acreage has declined to the present level of 219 million acres. This decline of 12 million acres is equal to almost 60,000 acres a month. If this trend is kept over the next fifty years, the South's forest will be reduced an additional 35 million acres. This trend must be stopped.

Several studies have shown that the South will be called upon to produce over half of the lumber and wood fiber products this nation will need by the year 2030.

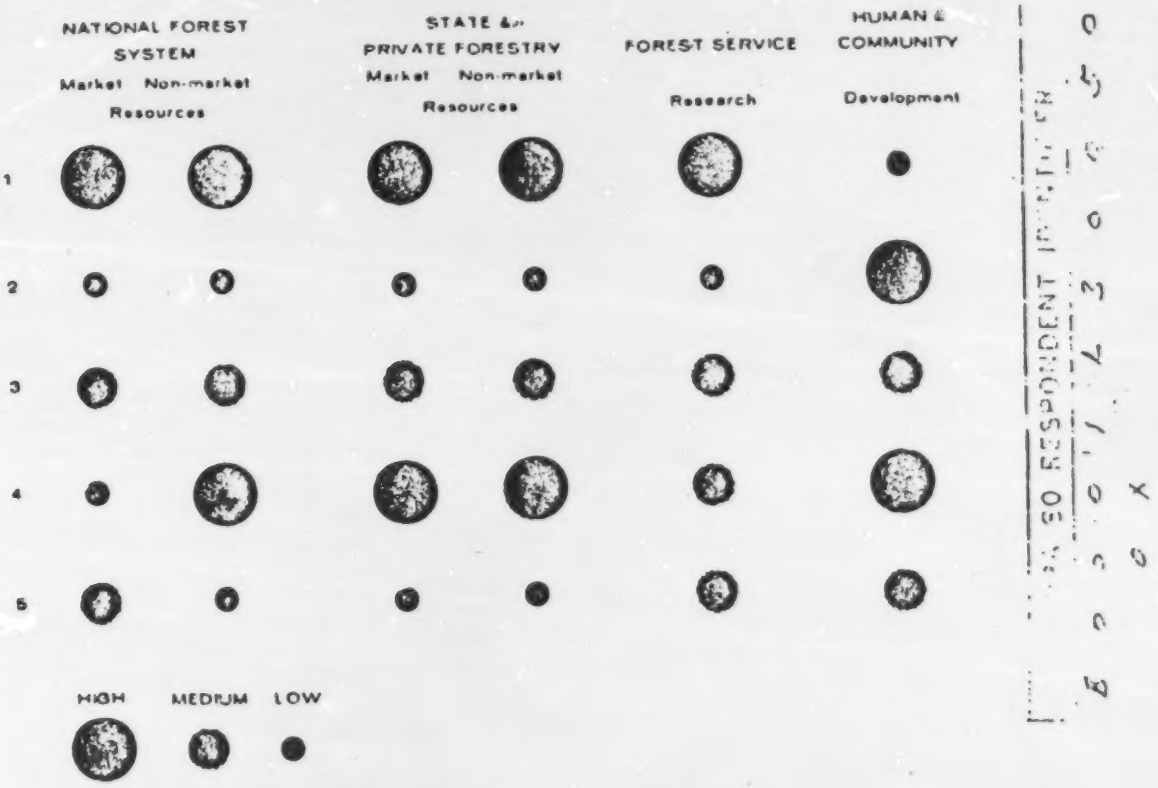
The question is asked, "Can we get there from here, and if so, how?" The answer, Yes! But we must start now if the southern states are going to accomplish what most studies seem to be demanding of them.

STATE AND PRIVATE LANDS:

Of the 219 million acres of forest land in the South, only 14 million is owned by the federal government (12.2 million is in the National Forest System). This leaves 202 million acres, 92%, owned by state governments, industry, and private land owners. The private forest lands, about 4/5 of which are in non-industrial ownerships, constitute a large majority of the forested areas in each southern state.

The RPA Program directions for the South must offer these non-industrial private land owners guidance, assistance, and incentives which will provide an inducement to reforest any lands presently cut over and idle, as well as, reforest all lands which are to be harvested in the future. This has to be a primary objective of the Program directions. For the South, the State and private forestry Program directions should emphasize a high level for market and a moderate level for non-market output

COMPARISON OF OUTPUT LEVELS OF ALTERNATIVE PROGRAM DIRECTIONS



th information which will allow the determination of the most effective harvesting systems available.

ater:

Both technical and financial assistance will have to be made available for protection and improving the quality, quantity, and timing of our water resource on private lands. Emphasis must be placed on plans and practices to improve water quality, and quantity, incorporate watershed management principals in forest resource planning, develop best management practices, improve municipal watersheds, improve stream side management, and implement onsite and offsite soil stabilization practices.

Research will have to be implemented to determine the water resource amenities and requirements for recreation and propagation of fish and wildlife. Nonpoint source pollution will have to be assessed and its effect on aquatic ecosystems determined. Water features of scientific and historic value must be identified, and their water source requirements evaluated.

Protection:

Fire management plans and assistance will have to be improved and accelerated on private lands. Cooperative action for insect and disease prevention, detection, evaluation and control will have to be increased.

Additional research in fire and atmospheric sciences will have to be funded. Forest insect and disease research will have to be intensified on methods to identify, assess, and predict the net social, economic, and environmental effects of insects and diseases.

Land:

Substantial increases will have to be provided for in financial, technical, and related assistance to States for forest resources planning. This will provide significantly more incentive to assemble, analyze, display, and report State forest resource data, to train State forest resource planners, and to consider forestry aspects during natural resource planning at the State and federal levels.

Forest resources economics research will have to acquire the significantly increased knowledge needed for improving economic analysis to evaluate land and resource management practices and the use of alternatives.

Soil:

Significantly more technical assistance and training in soil data interpretations for forest management purposes will have to be made available to State foresters, and through them, to owners and managers of private forest lands.

Research will have to be funded which would evaluate soil erosion processes and develop techniques for reducing erosion, thus maintaining terrestrial ecosystems and improving stream flow water quality.

Wildlife and fish:

Technical and related assistance for wildlife and fish habitat improvements will have to be significantly increased to private landowners.

Research should be provided which would produce information on game and non-game species and develop innovated methods for transferring this information to user groups, cooperatives, and/or decision makers. A better understanding of the role which fish and wildlife play in the total fauna-plant relationship and how they respond to various land management activities should result.

NATIONAL FOREST SYSTEM LAND:

In the South, the National Forest System Lands should provide for a moderate to high level market and a high level non-market level outputs. To make optimum use of the National Forest System Lands and their resources and to assure a continuous flow of all goods and services, the land should be managed under multiple use-sustained yield principals. The Program emphasis should be on the delivery of goods and services on National Forest Lands giving special regard to their role as a national trust. The National Forest should be maintained and protected for future generations, but utilized and enjoyed by the present generation.

Timber:

The annual timber sale offerings of the National Forest System Lands should be expanded. Harvesting should be accelerated within the sustained yield principals to increase effective growth. The scheduling of harvest should be accelerated to attain the desired age-class structure and distribution on all National Forest Lands. Reforestation programs should be increased so that all backlog acres have been completed before 1985. Prompt reforestation with genetically improved growing stock should be required on all regeneration-harvested lands and any catastrophically deforested lands. Timber stands, particularly newly regenerated lands, should be fertilized where the response is known to be desirable and cost effective.

A significant program of basic and applied research should be directed at increasing our knowledge of multiresource timber culture so as to achieve the fullest site potential on all sites. New management guides which emphasize regeneration with genetically superior stock, intensive early culture, and multiresource management alternatives will have to be developed and published for all commercial forest tree species. Management strategies will have to be developed and a strong program which will provide the basics for new technological advances in culture and management of forest trees will have to be developed. Emphasis will have to be made to obtain maximum productivity from all sites. Utilization research will have

be intensified, directed toward greater utilization of pine and hardwood timber. Forest engineering research will have to be developed to determine and demonstrate the benefits of removing low grade hardwood and residuals from public and private lands, as related to silvicultural and social considerations. Evaluations will have to be conducted to determine the advantages of biomass energy as a replacement for the non-renewable energy sources.

Water:

Water quality standards will have to be met for all water yielded from the National Forests. The detail and quantity of water resource inventories should increase as management intensifies to produce high levels of water output. Resource improvements to increase natural water yield and maintain quality will have to be implemented. Increase maintenance of water resource improvement projects should be provided to prevent further damage to the water resource from natural events. In comparison to current water yields, the quantity of water will have to increase to meet the increasing demands.

Research will have to be developed to determine the water resource amenities and requirements for recreation and the propagation of fish and wildlife. The hydrologic processes of forest aquatic ecosystems will have to be qualified and the effects of management practices on water yield and distribution evaluated. Nonpoint source pollution will have to be assessed and its effects on the aquatic ecosystems evaluated. Control measures will have to be developed and unique aquatic ecosystems and water features of scientific or historic value will have to be identified, and their water resource requirements evaluated.

Protection:

An intensive fire protection program will have to be developed to afford protection to critical water sheds and other high value lands. Modified protection levels should be developed to other lands to meet land management objectives for high levels of output. Flammability of the forest will have to be reduced through expanded wood residue utilization, treatment of all active creative fuels, and the reduction of natural occurring fuels, where cost effective. Air quality laws and regulations will have to be considered in all burning activities.

Research on fire and atmospheric sciences will have to develop the knowledge and technology leading to fire and smoke management systems. Strategies which will provide cost-effective interval systems for the prevention and control of fire will have to be developed. Information leading to the use of fire as a tool for the protection and enhancement of resource outputs will have to be strengthened. New skills and techniques which will be developed through research, will intensify total resource protection with special emphasis on fire management

Basic and applied research will have to be accelerated and intensified on methods to identify, assess, and predict the net social, economic, and environmental effects of insects and diseases. New and improved methods will have to be developed to evaluate and predict how, and to what degree, harmful agents affect all resource uses and values.

Lands:

Land and resource management plans will have to be completed on all National Forest System lands by the mandatory October, 1985, completion date. Planning and special studies will be accelerated to complete planning before the mandatory date and intensified to the level needed to support the planned levels of resource development. Activity associated with the high level of resource output on the National Forest System lands will substantially increase the need for identifiable property lines.

Property line location and marking will have to be aggressively pursued on the many miles of lines and property corners needed to facilitate the high level resource outputs needed on the National Forest System lands in the South. Increased efforts will have to be made to plan for and fulfill reasonable requests for uses. Existing special uses will have to be managed to protect public interest.

Recreation:

Because of the ever increasing population and the increasing leisure time available to the American public, the highest level and widest range of recreational opportunities has to be made available on National Forest lands. Studies show that developed-site use could increase from 150 to 200 percent between now and 2030. Because of this, the backlog of facility rehabilitation should be completed by 1985. Orientation and/or interpretive services should be provided at all developed recreational sites. Construction programs for trails and related facilities will have to be accelerated to meet these increasing demands.

Research will have to develop new technology which can improve methods of inventoring recreational resource supplies, coordinate public and private supplies, and predict future supplies. Methods will have to be developed to improve the integration of recreation with other resource uses, facility design, and scenic qualities.

SUMMARY:

The SIMA feels the "current approach" being applied to the forest land in the South will not be adequate to meet the demands which will be placed upon them during the next 50 years. We must start now if we are to be assured all resources will be capable of producing the total amount of goods and services which will be required.

Private non-industrial landowners, who own the majority of the forest land in the South, must be convinced that he must return his land to trees when harvested, and all cut over areas have to be replanted. This has to be the prime objective of all forest management agencies.

The National Forest System lands must be prepared to meet their share of the wood fiber demand. All support and related activities should reflect an equal readiness. The National Forest System lands should also be prepared to supply the needed expanded recreational demands which will be expected of it during the next fifty years.

The SLMA hopes the U. S. Forest Service, the Congress, and the President realizes the important role the southern forest will play during and after the years between now and 2030. Whatever decisions are made with the other regions of the nation, it must be kept in mind the South will be the single most important area we will have in relation to supplying this nation's needs with saw timber and wood fiber products.

The SLMA and its 410 small business lumber manufacturers thank you for this opportunity to express our views.

United States Department of the Interior

OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20240

JUL 16 1979

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D. Cotton
EXEC. & REC.
FS Report
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Honorable Bob Bergland
Secretary of Agriculture
Washington, D. C. 20250

Dear Mr. Secretary:

The Department of the Interior has reviewed the U.S. Department of Agriculture, Forest Service draft documents, A Report to Congress on the Nation's Renewable Resources, An Assessment of the Forest and Range Land Situation in the United States, and Alternative Program Directions 1981 - 2030.

The draft documents develop a wide variety of useful information on the condition of our Nation's public lands. However, several important components were not examined in the RPA procedure to the fullest extent. These components, outlined in the consolidated review, include:

I. Goal Selection
II. Program Alternatives
III. Information
IV. Legislative, Executive, and Regulatory Requirements
V. Multiple-use

The specific Bureau comments and the departmental consolidated review are attached in order to add further detail to the specific issue areas and assist your final efforts.

We maintain a continuing interest in the RPA process and greatly appreciate the opportunity to comment on the draft documents. If there are any questions concerning the comments, we would be happy to discuss them with you.

Sincerely,

Cecil D. Andrus
SECRETARY

Enclosure

126

Department of the Interior
Comments on the Forest Service
Renewable Resources Planning Act
Draft Report

I. Goal Selection

A. Forest and Rangelands--RPA does not identify alternative goals for the Nation's forests and rangelands. Each alternative program should clearly state the intended condition of the Nation's forests and rangelands 50 years from now. Natural ecosystems protection, capability to provide recreational opportunities, and potential production of marketable commodities should be identified. Each alternative should show, by qualitative and quantitative measures, the annual nonmarket as well as market benefits to be provided from the present time until the long-term resource goals are achieved. Specific goals should be established for protection of undisturbed ecosystems, fish and wildlife, wild and scenic rivers, cultural resources, wetlands, wilderness, watersheds, outdoor recreation and minerals as well as for timber.

B. Wildlife and Fish--The discussion of "demands for wildlife and fish" should give stronger emphasis to the ecological values (not just perceptions) of these resources.

Although multiple fish and wildlife values are discussed under demands, the discussion of supplies focuses on sales and "harvests". The section on supplies should be revised to cover total populations for non-consumptive uses. State of the arts method of evaluating supply and demand for natural resource and wildlife based recreation should be employed. (See Report to Congress (RC) pages 23 & 25)

C. Water and Wetlands--There should be more affirmative action proposed for water related issues involving public lands. There are significant water related issues involving public lands that require Federal attention. We suggest that a concise statement be added to the text of the documents to indicate that the water and related issues are recognized as a subject of separate reports.

The discussion of water has no mention of wild, scenic, or recreation rivers, their values, or need for protection. (See RC page 46-49)

The section on wetlands indicates that timber harvesting is compatible with wetland protection. We suggest that special rather than reasonable care is necessary to assure timber harvests which protect fragile wetland ecosystems. (See RC page 51)

D. Wilderness--The report does not contain a clear statement as to how the wilderness goals for each of the five alternative programs were selected. The demand figures for wilderness in the Situation Assessment are based primarily on demand for outdoor recreation. The available data applies to all forest and rangelands.

Because of the lack of good data, we cannot assess whether wilderness goals were set for each alternative so that they would be consistent with the overall objectives of the alternative, or as an approximation of the Forest Service's share of the Nation's demand for wilderness areas.

We suggest that a statement be made in the final report as to how the RARE II decisionmaking will be coordinated with the alternative program directions.

E. Recreation--The "Alternative Program Directions 1981-2030" document does not present a clear picture of the Forest Service's role in providing outdoor recreation opportunities. It is not clear whether the Forest Service expects to meet all of the projected demand or how much of the projected demand could be satisfied on existing Forest Service land. The highlights of Alternatives do not mention more use of existing Forest Service land to satisfy recreation needs. We do not understand whether the Forest Service needs to acquire more acres for recreation or whether most of the FS share of the recreation demands can be met on existing Forest Service lands. We recommend these matters be cleared up in the final document.

F. Wild Horses and Burros--In reviewing the documents, we found no mention of wild horses and burros either as a resource or a user of the Nation's rangelands. Since they are a significant part of the Federal land ecosystem, they should be addressed in the National Assessment of Renewable Resources. Although their management may be minor compared to other components of the National Forest System, they do represent a unique resource of high public interest and of importance on some Rangeland areas. Therefore, they should also be included in the Alternative Program Directions Report.

G. Minerals--The report acknowledges that minerals development and production have major effects on the production and use of surface resources. Forest Service lands as well as other forest and range lands, play an important role in minerals, yet this element is not adequately addressed in the report.

Requirements for mineral resources should be integrated and considered with other resource plans and alternatives. The discussions should not be limited to energy and 1872 Mining law proposals. Also the role of public lands (including the National Forest System) in the Federal Coal Program should be mentioned.

II. Program Alternatives

A. RPA Does Not Delineate Viable Alternatives--From a strict economic standpoint, the alternatives presented leave the decisionmaker with the basic choice of either maintaining the status quo or doing more of the status quo. The range of alternative programs presented is not sufficiently broad to provide an interesting set of choices. New alternatives should be delineated in such a way that tradeoffs can be examined.

The preferred FS alternative may be a mix and match exercise that includes components from each alternative. The impact of the preferred alternative may not be known from the information in the RPA. We recommend that the FS prepare a supplemental impact analysis of the alternative that is chosen.

B. RPA Does Not Specify the Implementation Procedures for the Preferred Alternative--Although none of the alternatives presented in the report clearly calls for significantly increased emphasis on resource protection and public recreation, we believe that as one of the alternatives recommended Alternative No. 4 ("Major increase in nonmarket services") provides a reasonable basis for a future recommmendation. However, we believe that it is not necessary to reduce market production to a low level in order to have a high level of nonmarket production on Forest Service lands. The establishment of realistic goals for such an alternative should allow a moderate level of market production and a high level of nonmarket production on Forest Service as well as forest and range lands administered by the BLM and other Federal agencies, and encourage high levels of both market and nonmarket activities on state and private lands.

III. Information

A. RPA Does Not Emphasize the Need for Coordination, Collection, and Management of Information-- The availability of good resource information is a key ingredient in successful resource management. The report should set forth alternatives for a coordinated government/private approach. It should include an inventory of resources, research, monitoring, development of information management systems, and a projection of supply and demand using state of the art methods. The Forest Service's role in these activities can then be clearly identified.

B. RPA Fails to Reference Sources of Information in any Consistent Manner.

1. The water-demand quantities cited for 1975 (p.46-47) correspond to magnitudes reported by the Geological Survey for the period 5 to 10 years prior to 1975 (Murray, C.R., and Reeves, E.B., 1977, Estimated use of water in the United States in 1975: U.S. Geological Survey Circular 765, p. 10). For 1975 Murray and Reeves give total withdrawals of 420 billion gallons per day (bgd), of which 83 bgd was ground water, 326 bgd surface water, and 0.5 bgd reclaimed sewage.

These authors also report that irrigation use in 1975 was 140 bgd of the total, self-supplied thermoelectric power use was 190 bgd, and other self-supplied industrial use was 44 bgd.

Throughout the section on Water (p. 46-49), the report would be improved by citing the sources of information on water demand and water supply.

2. The lack of appropriate (especially quantitative) wildlife supply information should be more emphatically stressed. Interpretations based on inadequate supply information should be especially conservative to avoid significant failures. Further, by pointing out at a national level the real problems with wildlife supply predictions, the Forest Service can generate support for research to develop better methods. These comments relate equally to demand projections for fish and wildlife resources.

3. The use of percentage increases in certain activity types is misleading. For example, a 252 percent increase in downhill skiing sounds impressive but may only be above a base involving 2 percent of the population, while a 63 percent increase in land based activities involves 80-90 percent of the population. We recommend that the final report include data on the actual numbers of participants and relative priority or preferences for each activity.

4. Discussions of "supply of outdoor recreation" should note the limits of measurements based on acres per person. Qualifying language in the Assessment document (p. 94) provides a model for what could be included in the report. We also suggest that information be added relative to wild, scenic or recreational river potentials on private lands.

5. Discussions of "supply and demand comparisons" should note the problems of peak loads and timing. Supply is not subject to a constant demand over time - and may be "stretched further" by management strategies.

C. RFA is Not Explicit About Relationships with Other Agencies and the Private Sector-The report should outline alternative strategies for the Forest Service's cooperation with other governmental agencies and the private sector in protecting natural and cultural resources and in providing public recreational opportunities. Particular attention should be given to showing what the Forest Service intends to do to ensure that management of National Forests and Rangelands is compatible with management of adjacent or nearby protected natural and recreation areas as well as commercial timber operations. The final report should give additional emphasis to cooperative partnership approaches to protecting resource values and opening private lands to public use.

1. As a resource management agency, BLM is especially interested in the linkages between site-specific, management requirements, and broad-scale resource assessments. In the RPA data, it is not possible to determine what part of the supply picture for both consumptive and nonconsumptive resources can be met specifically from FS, BLM, other Federal or private lands. BLM's inventories are more management than assessment-oriented and thus it is important to develop ways to use information from fine-scale inventories for broad-scale assessment and relate these to specific management strategies for various categories of forest and rangelands. Stated simply, it is not clear how the data presented can be applied directly to the business of managing the resources of the Federal lands under other agency jurisdiction, especially the Public lands under BLM jurisdiction.

2. The report contains no evidence that projections of recreation supplies and demands have been coordinated with the Heritage Conservation and Recreation Service Nationwide Planning efforts and projections. Use of a common data base seems appropriate unless different projection and survey techniques can be justified.

3. A resource planning system does not exist that provides managers and planners with the information needed to assess the impact of habitat changes upon fish and wildlife species and populations. In the Assessment document, the section on "Relationships with other Agencies" reinforces the usefullness of the Five Agency Inventory Agreement on the classification and inventory of natural resources, but does not outline the full extent of the joint resource needs or legal responsibilities.

4. There is no evidence in the RPA materials of any public involvement in the identification of impacts and issues at the community level. For impacts, there is very little information as to what factors led to specific judgements or how specific conclusions were derived by the experts. For that matter there appears to be little use of existing social data archives to validate the conclusions of the experts. If public consciousness about the orientation of the National Forest System was raised, issues relating to more public access to nonmarket services may arise.

5. Attention needs to be paid to the legislative requirements of the RPA which directs the Secretary of Agriculture to prepare "a description of FS programs and responsibilities--and the relationship of these programs and responsibilities to public and private activities". Very little attention is given to the ability of other public (non-FS) land managing agencies and private sector to supply the services that the assessment concludes are needed. The contributions of and the impacts on the non-FS sectors are left vague.

IV. Legislative, Executive, and Regulatory Requirements

A. RPA Does Not Develop a Comprehensive Strategy for Compliance with Legislative, Executive, and Regulatory Requirements Relating to Protection of Resources on National Forests--The report should assess the status of the Forest Service's compliance with legal requirements relating to the resource protection and environmental quality of National Forest lands, and establish objectives in specific areas where improvement is determined to be required.

1. Responsibilities under the Wild and Scenic Rivers and National Trails System Acts are virtually ignored. There is little evidence how the implementation of such responsibilities relates to other Forest Service programs, or the degree to which rivers and trails programs are now, or will be, integrated with the other plans and programs of the Service.

2. Information should be updated to reflect changes resulting from Public Law 95-625, the Park and Recreational Act of 1978 which includes trails in the national system, designates a trail for study and added a new category of trails in the national system; National Historic Trails. (See RC, p. 102-105)

3. The review of the Endangered Species Act of 1973, should be expanded to include the FS responsibilities under Section 7 of the Act. The text does indicate that the FS will consult with appropriate agencies as required. We think the Endangered Species Act deserves special emphasis. The FS should also be aware that its programs of aid to state and private forests could be of potential benefit in maintaining endangered species habitat as well as stimulating production.

4. The report does not discuss the FS and BLM responsibilities under the Wild Horse and Burro Act and the Public Rangelands Improvement Act.

5. Although the Antiquities Act of 1906, the National Historic Preservation Act of 1966, and the Archeological and Historic Preservation Act of 1974, are cited in Appendix D of the Report to the Congress, we find no mention of E.O. 11593, "Protection and Enhancement of the Cultural Environment".

6. Appendix D (p. 194-198) should include reference to Executive Orders 11988, Flood Plain Management, and 11990, Protection of Wetlands.

V. Multiple Use

A. RPA Does Not Properly Consider Multiple-use Tradeoffs--Most of the policy issues are directed to the questions of timber harvest, forage production, financing forest operations, etc. The report is almost exclusively single-use and commodity oriented, and largely ignores multiple-use mandates specified in both FLPMA and Forest Service's own legislative authorities. A multiple-use perspective designed to balance the use of resources and environmental concerns is urgently needed in this important national assessment. The report should address specifically the multiple-use considerations as related to program alternatives. Although information on use is stated in each section, there is no discussion of tradeoffs. Formulating at least some issues related to the possibilities of managing National Forest System lands for other purposes would be useful in considering multiple-use tradeoffs.

1. Rangelands--The RPA report contains a basic inconsistency in logic about resources and demands for those resources on range lands which threatens its creditability. One problem is the assumption that the demand for red meat will be the major determinant or driving force in rangelands management in general and in establishing levels of livestock use in particular. The second issue, common throughout the RPA documents, is that range is a use and that the basic mission of that use is to provide forage for domestic livestock grazing. Range is an ecosystem to be managed for all beneficial uses. The third problem is the difficulty of finding documentation of the forces or events which produce cause and effect relationships on rangelands. Forest and range lands are projected to have greatly increased demands for timber, range, wildlife, recreation, and water quality. The FS and Nation should certainly realize that some of these demands are conflicting and, indeed, jeopardize the supply of their resources. For example, intensive timber management can help increase supply of timber products but may be exceedingly detrimental to wildlife resources; increased range use by domestic livestock will be detrimental to timber regeneration, wildlife, and water quality. Some forest and range uses seem more legitimate than others in an integrated forest and range assessment.

2. Historic, Archeological, and other Cultural Resources are not Presented or Discussed Consistently in any of the Three Documents--Although these are "non-renewable" rather than "renewable" resources, there should be general recognition throughout the documents that these are resources contained in forests and rangelands, and that there are specific legislative, executive, and regulatory mandates for their identification, evaluation, protection and enhancement beyond the general environmental requirements of the National Environmental Policy Act.

3. Fish and Wildlife--The Fish and Wildlife Section of the Report to Congress (p. 23), contains a very curious attitude towards "ecological perceptions" as demands on fish and wildlife is implied. To summarize the attitude, only economically or immediately beneficial fish and wildlife are of any "worth"; only organisms "perceived" to be of ecological significance are of any "value". Whether humans value an organism or perceive its place in an ecosystem does not matter. If some argumment must be made that humans benefit from natural systems, it can be stated that we have only general ideas on how all life on earth is supported and even less knowledge of how resilient to damage these relationships may be. Therefore, tampering with our life support system is ill advised at best. This problem has been addressed very peripherally, but it is a major mistake to leave them out of the document.

B. RPA Does Not Reflect Conflicts Among Resource Uses--The summation on Page 76 reads, in part, that "on much of the land, multiple-use takes place with no readily apparent conflict among resource uses..." Such a generalized characterization tends to understate those real conflicts that are occurring on Federal lands. Land-use conflicts are widespread and increasing, and must be considered in long-term resouurce plans. The relationships between resource management and related multiple use benefits should be explained. The RPA should be used as a vehicle for informing the American public and Congress of the potential for enhancing multiple use benefits through resource management.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

10 AUG 1979

OFFICE OF THE
ADMINISTRATOR

Mr. R. Max Peterson, Chief
U.S. Forest Service
Department of Agriculture
P.O. Box 2417
Washington, D.C. 20013

Dear Mr. Peterson:

The Environmental Protection Agency (EPA) is pleased to submit comments on the draft 1980 Resources Planning Act Assessment and Alternative Program Directions. We appreciate the cooperation of your staff in discussing our concerns with the RPA process and documents. I believe that this exemplifies the spirit of cooperative planning intended by the Memorandum of Understanding between EPA and the Forest Service. Detailed EPA comments are enclosed, and a summary of our major concerns follow.

EPA believes the RPA Program is a very important vehicle for setting long term goals for the nation's forest and range lands. The RPA Program will influence both the Forest Service program direction and the funding which will be available to promote environmental protection and cooperative programs between EPA and the Forest Service. We anticipate cooperative programs such as implementing state silvicultural nonpoint source water quality management planning under the Clean Water Act. The RPA Program also sets resource production targets which are the bases for National Forest Management Plans. Because of their importance, we want to stress our hope that the targets in the RPA Program recognize and be as responsive as possible to the nation's environmental goals.

As discussed in the enclosed detailed comments, EPA has identified the options we support for resolution of the key issues considered in RPA. We have also suggested several additional issues, relating to ecological diversity and economic analysis, which we believe should also be considered in RPA.

Based on our review of the draft Assessment, we have identified four goals which we believe could effectively support outputs of both market and non-market resources, improve environmental protection, and allow for research and cooperative forestry programs. In general, the goals which EPA favors include:

(1) setting high goals for nonmarket resources and environmental protection on National Forest lands;

(2) maintaining current outputs of market resources, particularly timber, from National Forest lands by concentrating investments and management on those lands most productive in the long term;

(3) providing technical and financial assistance to help stimulate increased production from private forest lands, where economical opportunities for such increases are greatest, and also provide assistance to private landowners in protecting environmental quality and productiveness of their lands;

(4) maintaining an active research program focused on multi-resource interactions.

We do not believe that any of the five alternative directions presented in the draft Program provide this mix of goals. We therefore suggest that a new alternative be developed which includes these goals.

In reviewing the draft Assessment, we note that demands for nonmarket resources are growing at a faster rate than demands for market resources. Further, while private lands are better suited to supply increased levels of wood products in the long term, National Forest lands are better suited to supply high quality recreational experiences, pure water, and habitat for sensitive fish and wildlife species. We are encouraged by advances being made in the analysis of interactions among different resources. However, we recognize that quantitative information has not yet been developed to provide a clear picture of how increasing the output of some resources affects the availability or quality of other resoruces. We hope that the intensive planning mandated by the National Forest Management Act (NFMA) will help provide information which will reduce these uncertainties and that RPA targets can be promptly adjusted based on feedback from the planning process.

Given the recent Presidential directive encouraging temporary increases in timber harvested from National Forest lands approximating 1-3 BBF through provisions of Section 13 of the NFMA, a further modification to the RPA must be made to include appropriate analysis of the impacts of the Presidential policy statement. It is important that the impacts of any deviation from the basic management philosophy and legislative requirements of even flow sustained yield be examined carefully. This should include the analysis and coterminous public and interagency review necessary to amend specific Forest Management plans, as well as the EIS review requirements of NEPA which must be satisfied in revising any of these plans. It should also include analysis of the impacts of such a policy change at a national and regional levels. Like any significant new information, such a policy change must be afforded the same level of public and interagency review as other material in the draft EIS. Although impacts of possible increased cuts will be reviewed in individual unit plans and amendments, the cumulative national impact must be addressed by RPA. We recommend that an environmental assessment be made to determine if a supplement to the RPA EIS is necessary.

Finally, as our enclosed comments also point out, several inconsistencies occur in the data for outputs and environmental effects of the alternative programs particularly for water quality and fisheries effects. We recommend a major expansion of air quality consideration in RPA. Further, we suggest greater emphasis on the role of land use decisions and degree of land disturbance in predicting environmental effects and less emphasis on corrective measures and "management improvements." Utilizing such a land based approach, the new alternative we are proposing would employ protective land designations to prevent disturbance of sensitive areas while focusing intensive timber management on other more productive areas.

Also included are specific comments concerning RPA which are the result of recent meetings of the EPA/RPA work group, established as part of the FS-EPA agreement. I hope these comments will assist the Forest Service efforts in using the RPA process as a forum for both rigorous analysis and imaginative consideration of the many important policy issues confronting all citizens in determining how the nation's forest and range land is to best contribute to the national welfare. We are pleased with the opportunity to actively participate in this process, and look forward to continued involvement as the final 1980 Program is developed.

Because of the deficiencies in the RPA ~~documents identified~~ in our detailed comments, we have categorized the DEIS as 2; insufficient information. Since there was no recommended alternative ~~as~~ part of the DEIS for RPA, we have not categorized the "project" impact.

We would be happy to meet with you and your staff to discuss our comments in further detail.

Sincerely yours

William N. Hedeman, Jr.,
Director
Office of Environmental Review (A-104)

Enclosure(s)

SCOTT M. MATHESON
GOVERNOR

STATE OF UTAH
OFFICE OF THE GOVERNOR
SALT LAKE CITY
84114

Received
6/15/79

June 8, 1979

John R. McGuire, Chief
USDA Forest Service
P.O. Box 2417
Washington, DC 20013

Dear Mr. McGuire:

The Environmental Coordinating Committee has reviewed the Forest Service Draft RPA Assessment & Program 1980 Update.

The enclosed comments stating Utah's position are submitted for your review and consideration.

Thank you for the opportunity to review this document.

Sincerely,

Governor

SMM:kb

enclosure

RPA 80 RESPONDENT IDENTIFIER										
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June 5, 1979

STATE OF UTAH COMMENTS ON

THE FOREST SERVICE DRAFT RPA ASSESSMENT & PROGRAM

1980 UPDATE

The State appreciates the opportunity to review the draft assessment and program. We don't believe that any one alternative would best meet the needs of Utah; therefore, we recommend a combination of alternatives. We will first offer comments on each of the alternatives and then identify which alternative(s) we recommend for each of the twelve program elements.

ALTERNATIVES

Alternative 1

This alternative would give high priority to production and non-production elements and would be by far the most expensive. However, it would also retain the highest monetary benefit. We do not believe this is a realistic program because we doubt if the higher production outlined for all of the elements is attainable.

Alternative 2

This is a minimal program and would not meet the increasing needs and demands which will be made of National Forest lands.

Alternative 3

This alternative would appear to provide a relatively good multiple use balance. It seems to provide a fairly reasonable balance between production and non-production uses.

Alternative 4

We question the feasibility and desirability of shifting the emphasis of resource production to private lands as much as possible. Since the majority

of the lands in the West are administered by federal agencies, it would not be feasible to shift the burden for timber, minerals, water, and range to private or State lands.

Alternative 5

This alternative provides for a moderate level of market resources and a low level of non-market resources. This would not meet the needs or demands of such resource uses as fish and wildlife habitat improvement, range, and timber.

PROGRAM ELEMENTS

Recreation

Alternative 3 would provide a moderate increase in recreation without major affects on other multiple uses. With projected population increases and more leisure time available, the Forest Service program needs to provide as many opportunities for both developed and dispersed recreation as possible without degrading other resource values. This is particularly true in the western states where so much of the land base for recreational use is managed by federal agencies.

Wilderness

Utah supports wilderness designation of areas with outstanding wilderness characteristics and the proper management of those areas. Thus, we recommend a wilderness program that would correspond with a combination of Alternatives 2 and 3.

Wildlife and Fish

The Table on the bottom on Page 24 shows the increased demands for wildlife in the Rocky Mountain and Great Plains Regions to be significantly higher than any other region. In order to meet these demands, we believe Alternative 3 should be selected because it offers the best compromise for wildlife purposes.

Range

On Page 33 and 34 it indicates that existing upward trends in range grazing fall far short of meeting projected future demands. The livestock industry in the West is heavily dependent on federal grazing lands; therefore, it is important that range conditions be given adequate attention. As a compromise to other resource values, we recommend Alternative 3, which would provide for a moderate increase in animal unit months.

Timber

The assessment indicates that the demands for lumber is projected to rise sharply in the future. With this anticipated increase for timber products, it is important that adequate emphasis be placed on timber management. Thus, we favor Alternative 3 from the standpoint of increased timber sales on National Forest system lands particularly here in the West, but we also favor Alternative 4's emphasis on increased timber production on state and private lands.

Water

The demand for quality water production from National Forest system lands will become increasingly important in the future. Thus, we favor Alternative 3, which places moderate emphasis on watershed management and water production on National Forest lands.

Minerals

We favor Alternative 3, which attempts to accommodate all requests to prospect for, develop, and remove minerals from National Forest system lands. At the same time it provides for reclamation of mined lands and the rehabilitation of these sites.

Human and Community Development

We favor Alternative 3.

Support Elements

The four support elements--protection, lands, soils, and facilities--are important. We favor proper emphasis being placed on good land management

planning, closely coordinated with state and local planning as called for under the Resources Planning Act as amended. Since soils are our basic resource, it is extremely important that the mission of the Forest Service emphasizes the protection, conservation, and enhancement of our soil resources. Facilities that have been constructed, such as roads, fences, dams, etc., should be properly maintained and adequate financing should be provided for the maintenance of these capital improvement facilities.

APPENDIX B

LISTS OF ORGANIZATIONS THAT SUBMITTED WRITTEN COMMENTS DURING THE RPA PUBLIC COMMENT PERIOD

Commercial:

Alaska Loggers Association Inc.
Alaska Lumber and Pulp Company Inc.
Alaska Miners Association
Alaska Women in Timber
Alaskan Wilderness Sailing Safaris
Allen Johns
Allen-Rogers Corporation
ALP Federal Credit Union
AMAX
American Farm Bureau Federation
American Forestry Association
American Mining Congress
American Plywood Association
ASARCO
Associated California Loggers
Association of National Grasslands Corporation
Association of Oregon Counties
Bendix - Forest Products Division
Bill Block
B. J. Carney & Company
Bohemia Incorporated
Boise Cascade
Boise Cascade-Northeast Oregon Region
Boise Cascade-Timber and Wood Products Group
Bowaters
Burlington Northern
California Cattlemen's Association
California Farm Bureau Federation
California Nickel Association
C & D Lumber Company
Champion Timberlands
Cheyenne Valley Grazing Association
Chugach Natives, Inc.
Citizens for Management of Alaska Lands, Inc.
Clearwater Economic Develpment Association Corporation
Coconino Cattle Growers
Colorado Cattlemen's Association
Colorado Mining Association
Consolidated Papers Inc.
Container Corp. of America
Continental Forest Industries
Cook Inlet Aquaculture Association
Crown Zellerbach
Diamond International Corporation

Douglas Studs Corporation
Douglas Timber Operation Corporation
Duke City Lumber Company Corporation
Ed Williston Association Corporation
Edward Hines Lumber Company
Edward Hines Lumber Company - Idaho Stud Mill Division
Edward Hines Lumber Company - Ponderosa Pine Division
Edward Hines Lumber Company - Western Operations
E-Johnson
Elko Chamber of Commerce
Eugene F. Burrill Lumber Company
Federal Timber Purchasers Association
F. H. Stoltze Land and Lumber Company
Forest Farmers Association
Forest Industry Committee, Klawath County Chamber of Commerce
Forest Products Company
Fremont National Forest Grazing Advisory Board
Georgia-Pacific
Gorite Corporation
Hammermill Paper Company
Herbert Lumber Company
Idaho Outfitters and Guides Association Corporation
Idaho State Grange
Idaho Women in Timber
Illinois Farm Bureau
Illinois Power Company
Indiana Farm Bureau, Inc.
Industrial Forestry Association
Inspiration Development Company
International Paper Company
Kennecott Copper Corporation
Kinzua Corporation
Kodiak Lumber Mills, Inc.
Lat Paper Company
Leonard B. Netzorg - Law Offices
Louisiana-Pacific Corporation
Martin Marietta Corporation
Mead Corp.
Medford Corporation
Medora Grazing Association
Montana Women for Timber
National Forest Products Association
National Lumber and Building Material Dealers Association
National Particleboard Association
Nekoosa Paper Inc.
Nevada Cattlemen's Association
Nevada Mining Association Corporation
Noranda
North West Timber Association
Northern Hardwoods and Pines Manufacturers Association
Occidental Mineral Corporation
Ochoco Lumber Company
Ohio Power Company
Oregon Women for Timber
Owens-Illinois
Ozark-Mahoning Company

Pacific Lumber Company
Petersburg Chamber of Commerce
Peuta Post and Treating Company
Pfizer - Minerals, Pigments and Metals Division
Plum Creek Lumber Company
Potlach Corporation
Potlach - Lands & Forestry Division
Potlach - Wood Products Division
Public Lands Council/National Cattlemen's Association/National Wool Growers Assoc.
Public Service Company of Colorado
Public Service Company of New Mexico
Robert Doallar Company
Roseburg Area Chamber of Commerce
Roseburg Lumber Company
Rough and Ready Timber Company
St. Maries Chamber of Commerce
St. Regis
Santa Barbara County Range Improvement Association
Saval Reaching Company
Shee Atika Inc.
Simpson
Sitka Women in Timber
Society for Range Management
Society of Mining Engineers of Aime
Southeast Lumber Manufacturers Association
Southeast Missouri Mining and Milling Division
Southern Oregon Resources Alliance
Southwest Forest Industries
Southwest Forest Industries - PNW Division
Stikine Gilluet Association
Stultze - Conner Lumber Company
Sun Studs Corporation
U.S. Borax
Union Camp - Woodlands Division
Union Carbide
Union Carbide - Metals Division
Upper Tule Association Incorporation
Utah Cattlemen's Association
Utah Wool Growers
West End Livestock Association
Western Forest Industries Association
Western Mining Council
Western Timber Association
Western Wood Products Division
Westvaco
Wisconsin State AFL-CIO
Weyerhaeuser Company
Wood River Journal
Yreka Chamber of Commerce

Environmental:

Alaska Center for the Environment
Albuquerque Wildlife Federation
Alpine Lakes Protection Society

American Wilderness Alliance
Associated Students, University of Washington
Atlanta Audubon Society
California Waterfront Association
California Wilderness Coalition
California Wildlife Federation
Central Cascaders Conservation Council
Clearwater Conservation Forum
Coalition for Canyon Preservation
Dakota Environmental Council, Inc.
Environmental Center
Faye Ogilvie
Federation of Western Outdoor Clubs
Federation of Western Outdoor Clubs - Southeast Alaska
Florida Sierra Club
Florida Sierra Club - Tallahassee
Fort Worth Sierra Club
Four Corners Wilderness Workshop
Friends of the Earth, Inc.
Friends of the Earth/Federation of Western Outdoor Clubs
Friends of the Earth/Federation of Western Outdoor Clubs - California
Hood Canal Environmental Council
Houston Sierra Club
Idaho Co-op Wildlife Phosphate Study
Idaho Environmental Council
Izaack Walton League - San Jaciuto Mountain Chapter
Ketchum Warm Springs Riding Club
Lane County Audubon Society
Mazamas
Montana Wilderness Association
Montana Wilderness Association - Flathead Chapter
National Audubon Society
National Forest Recreation Association
National Wildlife Federation
National Wildlife Federation - Southwest
National Wildlife Federation - Region 13
National Resources Defense Council/Sierra Club/The Wilderness Society
New Mexico Wilderness Study Committee
New Mexico Wildlife Federation
Newton County Wildlife Association
Nevada Environmental Action Trust
Northstate Wilderness Committee
Ozark Headwaters Group
Outdoors Unlimited - Sawtelle Chapter
Petition
Porterville Area Environmental Council
Prescott Audubon Society
Prescott Chapter, I.W.L.A.
Rice University
Resources for the Future
Save the Smile
Seattle Audubon Society
Sierra Club-Angeles Chapter
Sierra Club-Forest and Wilderness Committee
Sierra Club-Grand Canyon Chapter
Sierra Club-Juneau

Sierra Club-Lone Star Chapter
Sierra Club-Los Padres Chapter
Sierra Club-Rio Grande Chapter
Sierra Club-Rocky Mountain Region
Sierra Club-San Diego Chapter
Spokane County Sportsmen's Association, Inc.
Southeast Alaska Conservation Council, Inc.
Tahoma Audubon Society
Texas Committee on Natural Resources
The Mountaineers
The Northcoast Environmental Center
The Ozark Society
The Wilderness Society
The Wildlife Society-Arizona Chapter
Trustees for Alaska
Washington Environmental Council
Wildlife Management Institute
Wildlife Resources, Inc.

Governmental:

Agriculture Extension Service (NC)
Alaska Cooperative Wildlife Research Unit, Fairbanks, AK
Alaska Dept. of Commerce and Economic Development
Alaska Dept. of Fish and Game
Alaska Region-U.S. Dept. of Commerce-NOAA
Amador (County CCA) Planning Dept.
American Right of Way Association
Annette Natural Resources Center, Metlakatla, AL
Apache County (A3) Board of Supervisors
Arkansas Cooperative Extension Service
Arkansas Dept. of Local Service
Arkansas Dept. of Parks
Arizona Bureau of Geology and Mineral Technology
Arizona Civil Rights Division - Phoenix
Arizona State Land Department
Arizona State Parks Board
Arizona State University - Center for Public Affairs
Bitterroot Conservation District (Mont.)
Board of County Commissioners Pope County, Illinois
Bureau of Indian Affairs (USDI) New Mexico
Bureau of Land Management (USDI) Arizona State Office
BLM - USDI - (Colo.)
BLM - USDI - (Mont.)
Bureau of Land Management - (Utah) Acting State Director
Bureau of Mines, USDI (Colo.)
Bureau of Mines, USDI (Wash. D.C.)
Bureau of Reclamation-USDI-Lower Colorado Regional Office
Bureau of Reclamation-USDI-Southwest Region
Bureau of the Budget-State of Illinois
Calaveras County (CA) Board of Supervisors
California Dept. of Forestry
California Regional Water Quality Control Board
California State University-Dept. of Recreation and Leisure Studies
Cherokala Commission (Tenn)
City of Albuquerque (NM) Parks & Recreation Dept.

City of Burough of Juneau
City of Toulumne (CA) Board of Supervisors
Clemson University
College of Forestry - Seattle, WA
Colorado State University
Commissioner of Public Lands and Farm Loans (Wym.)
Community Development and Environmental Protection Agency-County of Sacremento (CA)
Conservation Commission - State of Iowa
County Clerk, Uinla County, Utah
County of Los Angeles-Fire Dept.
County of Siskiyou-Planning Department
County of Ventura (CA) Fish and Game Committee
Del Norte (County CCA) Board of Supervisors
Del Norte Municipal League (California)
Dept. of Commerce - Commonwealth of Pennsylvania
Dept. of Commerce (D.C.)
Dept. of Conservation - State of Illinois
Dept. of Conservation - State of Maine
Dept. of Conservation - State of Missouri
Dept. of Environmental Protection - Bureau of Forestry - State of New Jersey
Dept. of Environmental Protection - State of New Jersey
Dept. of Environmental Resources - Commonwealth of Pennsylvania
Dept. of Finance and Administration - State of New Mexico
Dept. of Fish and Game (Mont.)
Dept. of Health Services, Arizona
Dept. of Highways and Public Transportation (S.C.)
Dept. of Housing and Urban Development - Area Office - Hawaii
Dept. of Planning and Economic Development-State of Hawaii
Dept. of Natural Resources and Conservation (MONT.)
Dept. of Natural Resources and Environmental Control-Div. of Parks & Recreation State of Delaware
Dept. of Natural Resources-(Puerto Rico)
Dept. of Natural Resources-State of Maryland
Dept. of Natural Resources-State of Indiana
Dept. of Natural Resources-State of Minnesota
Dept. of Natural Resources-State of Michigan
Dept. of Natural Resources-State of Missouri
Dept. of Natural Resources-Olympia, WA
Dept. of Natural Resources-State of West Virginia
Dept. of Natural Resources-State of Wisconsin
Dept. of Parks (Ky)
Dept. of the Army-Omaha District (Neb.)
Dept. of the Army-South Atlantic Division
Director, Nevada Department of Fish and Game
Director, Uinta Basin Association of Governments, Vernal, Utah
Director, Uinta Basin
District IV Council of Governments-Yuma, Arizona
Div. of Budget Policy, Planning and Coordination, Idaho
Div. of Forest Environment-State of Rhode Island
Div. of Natural Resources (S.C.)
Federal Highway Administration-Alaska
Fish & Wildlife Service USDI-(GA)
Fish & Wildlife Service USDI-Hawaii
Fish & Wildlife Service USDI-Area Office-New Mexico & Arizona
Fish & Wildlife Service USDI-Missouri

Fish & Wildlife Service USDI-Wash. D.C.
Florida Dept. of Agriculture & Consumer Service, Division
Georgia Forest Commission
Glenn County (CA) Board of Supervisors
Governor State of Hawaii
Governor State of Utah
Great Plains Agricultural Council (Neb.)
Hayfork (CA) Community Spirit Women's Club
Hertitage, Conservation and Recreation Service USDI-South Central Region
Indian Affairs Commission (Arizona)
Kansas-Cooperative Extension Service
Kentucky Dept. for Natural Resources and Environmental Protection
Kentucky Dept. of Fish and Wildlife
Kentucky Natural Resource Commission
Lakeview Educational Assoc. Eden, Arizona
Loary, Mike, U.S. House of Representatives
Louisiana Forestry Commission
Madera County (CA) Board of Supervisors
Maine Historic Preservation Commission
Maricopa Association of Governments, Phoenix, AZ
Mayor Kemmerer, Wyoming
Mayor Ketchikan Gateway Borough
Mid-Pacific Regional Office - USDI Bureau of Reclamation
Mississippi Forestry Commission
Montana Forestry Service
NACOG - Flagstaff, Arizona
National Park Service (USDI) Carlsbad Caverns and Guadalupe Mountains National Parks, New Mexico
National Resource Dept. State of New Mexico
Nevada Dept. of Fish and Game (Region 1)
New Hampshire - Cooperative Extension Service
New Mexico Association of Conservation Districts
New Mexico Natural History Institute
New Mexico Natural Resources Dept. - State Park and Recreation Division, Water Resources Division
New Mexico State University - Cooperative Extension Service
New York State Dept. of Environmental Education
North Carolina Dept. of Natural Resources for Community Development
North Dakota Forest Service
North Dakota State University
Northwest and Alaska Fishers Center
North West Arkansas Regional Planning
Office of Administration - State of Missouri
Office of Environmental Design - Fed. Highway Administration
Office of Heritage Planning and Research, Dept. of Natural Resources and Environmental Control - State of Delaware
Office of Management and Policy Analysis - The Navajo Tribe Agriculture and Horticulture Dept. - State of Arizona
Oklahoma Tourism and Recreation Dept.
Paul Simon - U.S. House of Representatives
Pennington County (SD) Board of County Commissioners
Peter Kostmayer, U.S. House of Representatives
Pope County Board of County Commissioners (ILL)
Prescoh (AZ) Unified School District No. 1
President, Weber State College - Ogden, Utah
Pritchard, Joel, U.S. House of Representatives

Purdue University
Regional Planning Officer - Bureau of Reclamation
Representative (Staw) Wasilla, Alc
Research Dept. - House of Representatives - State of Minnesota
Resources Agency - State of California
San Diego (CA) County Board of Supervisors
Santa Barbara (CA) Indian Center
Seago Biabee - Arizona
Siskiya County (CA) Schools
Soil Conservation Service - Alaska
Soil Conservation Service (Connecticut and Rhode Island Iowa)
State Commissioner of Forestry (SC)
Soil Conservation Service - Spokane WA
South Dakota Dept. of Wildlife, Parks and Forestry
South Dakota State University
Southeastern New Mexico Economic Development District
State Forester, Nevada
Statehouse Mail Boise Idaho
State Natural Area Reserve System Committee - State of Hawaii
State of Nebraska
State University of New York - College of Environmental Science and Forestry
Tennessee Division of Forestry
Tennessee State Planning Office
Tennessee Valley Authority
The University of Arizona-College of Agriculture
Texas Agriculture Extension Service
Texas Forest Service
Texas Historical Commission
Texas Tech University
United States Dept. of the Interior
University of Colorado at Boulder
University of Idaho
University of Illinois-Urbana
Virginia Dept. of Agriculture, Consumer Affairs
Virginia Dept. of Conservation and Economic Development
Virginia Dept. of Highways and Transportation
Virginia State Water Control Board
Washington State University
Watershed Fire Council of Southern California
Wyoming Executive Department
Wythe County Planning Commission (VA)

Recreational:

California Association of 4 Wheel Drive Clubs, Inc.
Edelweiss Ski Club
Far West Ski Association
Fresno County Sportman's Club
Idaho Trails Council
Montana Snowmobiles Association
Montana 4 x 4 Association
Motorcycle Industry Council
National Forest Recreation Association
New England Trail Rider Association
Northern Idaho-Sierra Club
Pacific Northwest 4 Wheel Drive Association

Push 'n Pull
Sand Fleas 4 x 4 Club
Sno-Drifters, Inc.
South Carolina Wildlife Federation
Southeastern Idaho Rod-Gun Club
Tallacoosa
United Four Wheel Drive Association

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